



California Standardized Testing Program

Technical Report

Spring 2004 Administration

Educational Testing Service

November 2004



TABLE OF CONTENTS

TABLE OF CONTENTS	2
LIST OF TABLES	4
LIST OF FIGURES	12
Chapter 1: Introduction	13
Background	13
Overview of the Technical Report	14
Chapter 2: STAR Test Development Procedures	15
Test Assembly Procedures	15
Test Specifications	15
Item Review Process	16
Technical Characteristics of the Assembled Tests	19
References	20
Appendix 2.A	21
Appendix 2.B	23
Chapter 3: CST Equating Procedures	32
Equating Samples	34
Evaluation of Common Items	36
Scaling the Integrated Science CSTs	37
Equating the Braille Versions of the CSTs	38
CST Equating Conversions	38
References	40
Appendix 3.A	41
Appendix 3.B	54
Chapter 4: Item-Level Analyses	68
Item Analyses	70
DIF Analyses	73
IRT Analyses	75
Summary of Item-Level Analyses	77
References	79
Appendix 4.A	80
Appendix 4.B	94
Appendix 4.C	121
Chapter 5: Test-Level Analyses	136
Demographic Distributions	136
Accommodations Summary	137
Score Distributions and Summary Statistics	137
Reliability	137
Inter-correlations, Reliabilities, and SEMs for Reporting Cluster Sub-scores	138
Conditional Standard Errors of Measurement	139

Essay and Rater Agreement Summary	139
Composite Reliability for Grades 4 and 7.....	140
Decision Classification Analyses.....	141
References.....	142
Appendix 5.A	143
Appendix 5.B	179
Appendix 5.C	215
Appendix 5.D.....	218
Appendix 5.E	226
Appendix 5.F.....	229
Chapter 6: Historical Comparisons	242
Examinee Performance	242
Test Characteristics.....	242
References.....	243
Appendix 6.A	244
Appendix 6.B	255

LIST OF TABLES

Table 2.A.1: Statistical Specifications for CST Tests	21
Table 2.A.2: Summary of 2004 CST Projected Technical Characteristics	22
Table 3.1: Summary Statistics for the Reference Form and 2004 Equating Samples.....	35
Table 3.2: Evaluation of Common Items between New and Reference Test Forms.....	36
Table 3.3: Scaled Scores Defining the Various Performance Level Cut Points.....	39
Table 3.A.1: 2004 Reference Form Conversions for English-language Arts Grades 2 & 3 from 2003 Administration	41
Table 3.A.2: 2004 Reference Form Conversions for English-language Arts Grade 4 (with and without essay) from 2003 Administration	42
Table 3.A.3: 2004 Reference Form Conversions for English-language Arts Grades 5 and 6 from 2003 Administration	43
Table 3.A.4: 2004 Reference Form Conversions for English-language Arts Grade 7 (with and without essay) from 2003 Administration	44
Table 3.A.5: 2004 Reference Form Conversions for English-language Arts Grades 8 and 9 from 2003 Administration	45
Table 3.A.6: 2004 Reference Form Conversions for English-language Arts Grades 10 and 11 from 2003 Administration	46
Table 3.A.7: 2004 Reference Form Conversions for History-Social Science Grade 8 from 2003 Administration	47
Table 3.A.8: 2004 Reference Form Conversions for History-Social Science Grades 10 and 11 from 2002 Administration	48
Table 3.A.9: 2004 Reference Form Conversions for Mathematics Grades 2 to 7 from 2003 Administration	49
Table 3.A.10: 2004 Reference Form Conversions for General Math, Algebra I, Geometry, Algebra II, and High School Math from 2002 Administration	50
Table 3.A.11: 2004 Reference Form Conversions for Integrated Mathematics I, II, and III from 2003 Administration	51
Table 3.A.12: 2004 Reference Form Conversions for Biology, Chemistry, Earth Science, and Physics from 2002 Administration	52
Table 3.A.13: 2004 Reference Form Conversion for Grade 5 Science from 2004 Administration	53
Table 3.B.1: 2004 New Form Conversions for English-language Arts Grades 2 & 3.....	54
Table 3.B.2: 2004 New Form Conversions for English-language Arts Grade 4 (with and without essay)	55
Table 3.B.3: 2004 New Form Conversions for English-language Arts Grades 5 and 6	56
Table 3.B.4: 2004 New Form Conversions for English-language Arts Grade 7 (with and without essay)	57
Table 3.B.5: 2004 New Form Conversions for English-language Arts Grades 8 and 9	58
Table 3.B.6: 2004 New Form Conversions for English-language Arts Grades 10 and 11	59
Table 3.B.7: 2004 New Form Conversions for History-Social Science Grade 8	60
Table 3.B.8: 2004 New Form Conversions for History-Social Science Grades 10 and 11	61
Table 3.B.9: 2004 New Form Conversions for Mathematics Grades 2 to 7	62
Table 3.B.10: 2004 New Form Conversions for General Math, Algebra I, Geometry, Algebra II, and High School Math	63

Table 3.B.11: 2004 New Form Conversions for Integrated Mathematics I, II, and III	64
Table 3.B.12: 2004 New Form Conversions for Biology, Chemistry, Earth Science, and Physics	65
Table 3.B.13: 2004 New Form Conversions for Integrated Science I, II, III, and IV.....	66
Table 3.B.14: 2004 New Form Conversion for Grade 5 Science	67
Table 4.1: Summary of items and forms presented in 2004 CSTs	69
Table 4.2: Average (and Median) Proportion Correct and Point R-Biserial.....	72
Figure 4.1: Items from the 2004 Mathematics Grade 6 Field Test Calibration.....	78
Table 4.A.1: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts (Grades 2 to 6)	80
Table 4.A.2: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts (Grades 7 to 11)	82
Table 4.A.3: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (Grades 2 to 7)	84
Table 4.A.4: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (General Mathematics, Algebra I, Geometry and Algebra II)	86
Table 4.A.5: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (High School Math, Integrated Math I, Integrated Math II and Integrated Math III).....	88
Table 4.A.6: Item-by-item P-Plus, Point R-Biserial and B-value for History and Science (Grade 5 and Biology).....	90
Table 4.A.7: Item-by-item P-Plus, Point R-Biserial and B-value for Science (Chemistry, Earth Science, Physics, Integrated Science I, Integrated Science II, Integrated Science III and Integrated Science IV)	92
Table 4.B.1: Operational Items Exhibiting Significant Negative DIF	94
Table 4.B.2: Field Test Items Exhibiting Significant Negative DIF	95
Table 4.B.3: DIF Classifications for English-language Arts Grade 2 Operational Items....	97
Table 4.B.4: DIF Classifications for English-language Arts Grade 3 Operational Items....	97
Table 4.B.5: DIF Classifications for English-language Arts Grade 4 Operational Items....	97
Table 4.B.6: DIF Classifications for English-language Arts Grade 5 Operational Items....	98
Table 4.B.7: DIF Classifications for English-language Arts Grade 6 Operational Items....	98
Table 4.B.8: DIF Classifications for English-language Arts Grade 7 Operational Items....	98
Table 4.B.9: DIF Classifications for English-language Arts Grade 8 Operational Items....	99
Table 4.B.10: DIF Classifications for English-language Arts Grade 9 Operational Items..	99
Table 4.B.11: DIF Classifications for English-language Arts Grade 10 Operational Items	99
Table 4.B.12: DIF Classifications for English-language Arts Grade 11 Operational Items	100
Table 4.B.13: DIF Classifications for History Social Science Grade 8 Operational Items	100
Table 4.B.14: DIF Classifications for History Social Science Grade 10 Operational Items	100
Table 4.B.15: DIF Classifications for History-Social Science Grade 11 Operational Items	101
Table 4.B.16: DIF Classifications for Mathematics Grade 2 Operational Items.....	101
Table 4.B.17: DIF Classifications for Mathematics Grade 3 Operational Items.....	101
Table 4.B.18: DIF Classifications for Mathematics Grade 4 Operational Items.....	102
Table 4.B.19: DIF Classifications for Mathematics Grade 5 Operational Items.....	102
Table 4.B.20: DIF Classifications for Mathematics Grade 6 Operational Items.....	102
Table 4.B.21: DIF Classifications for Mathematics Grade 7 Operational Items.....	103

Table 4.B.22: DIF Classifications for General Mathematics Operational Items	103
Table 4.B.23: DIF Classifications for Algebra I Operational Items.....	103
Table 4.B.24: DIF Classifications for Geometry Operational Items.....	104
Table 4.B.25: DIF Classifications for Algebra II Operational Items.....	104
Table 4.B.26: DIF Classifications for High School Mathematics Operational Items	104
Table 4.B.27: DIF Classifications for Integrated Mathematics I Operational Items	105
Table 4.B.28: DIF Classifications for Integrated Mathematics II Operational Items.....	105
Table 4.B.29: DIF Classifications for Integrated Mathematics III Operational Items	105
Table 4.B.30: DIF Classifications for Grade 5 Science Operational Items	106
Table 4.B.31: DIF Classifications for Biology Operational Items	106
Table 4.B.32: DIF Classifications for Chemistry Operational Items	106
Table 4.B.33: DIF Classifications for Earth Science Operational Items	107
Table 4.B.34: DIF Classifications for Physics Operational Items	107
Table 4.B.35: DIF Classifications for Integrated Science I Operational Items.....	107
Table 4.B.36: DIF Classifications for Integrated Science II Operational Items	108
Table 4.B.37: DIF Classifications for Integrated Science III Operational Items.....	108
Table 4.B.38: DIF Classifications for Integrated Science IV Operational Items.....	108
Table 4.B.39: DIF Classifications for English-language Arts Grade 2 Field Test Items....	109
Table 4.B.40: DIF Classifications for English-language Arts Grade 3 Field Test Items....	109
Table 4.B.41: DIF Classifications for English-language Arts Grade 4 Field Test Items....	109
Table 4.B.42: DIF Classifications for English-language Arts Grade 5 Field Test Items....	110
Table 4.B.43: DIF Classifications for English-language Arts Grade 6 Field Test Items....	110
Table 4.B.44: DIF Classifications for English-language Arts Grade 7 Field Test Items....	110
Table 4.B.45: DIF Classifications for English-language Arts Grade 8 Field Test Items....	111
Table 4.B.46: DIF Classifications for English-language Arts Grade 9 Field Test Items....	111
Table 4.B.47: DIF Classifications for English-language Arts Grade 10 Field Test Items..	111
Table 4.B.48: DIF Classifications for English-language Arts Grade 11 Field Test Items..	112
Table 4.B.49: DIF Classifications for History-Social Science Grade 8 Field Test Items....	112
Table 4.B.50: DIF Classifications for History-Social Science Grade 10 Field Test Items..	112
Table 4.B.51: DIF Classifications for History-Social Science Grade 11 Field Test Items..	113
Table 4.B.52: DIF Classifications for Mathematics Grade 2 Field Test Items	113
Table 4.B.53: DIF Classifications for Mathematics Grade 3 Field Test Items	113
Table 4.B.54: DIF Classifications for Mathematics Grade 4 Field Test Items	114
Table 4.B.55: DIF Classifications for Mathematics Grade 5 Field Test Items	114
Table 4.B.56: DIF Classifications for Mathematics Grade 6 Field Test Items	114
Table 4.B.57: DIF Classifications for Mathematics Grade 7 Field Test Items	115
Table 4.B.58: DIF Classifications for General Mathematics Field Test Items.....	115
Table 4.B.59: DIF Classifications for Algebra I Field Test Items	115
Table 4.B.60: DIF Classifications for Geometry Field Test Items	116
Table 4.B.61: DIF Classifications for Algebra II Field Test Items.....	116
Table 4.B.62: DIF Classifications for High School Mathematics Field Test Items.....	116
Table 4.B.63: DIF Classifications for Integrated Mathematics I Field Test Items.....	117
Table 4.B.64: DIF Classifications for Integrated Mathematics II Field Test Items	117
Table 4.B.65: DIF Classifications for Integrated Mathematics III Field Test Items.....	117
Table 4.B.66: DIF Classifications for Grade 5 Science Field Test Items	118
Table 4.B.67: DIF Classifications for Biology Field Test Items.....	118
Table 4.B.68: DIF Classifications for Chemistry Field Test Items.....	118

Table 4.B.69: DIF Classifications for Earth Science Field Test Items	119
Table 4.B.70: DIF Classifications for Physics Field Test Items	119
Table 4.B.71: DIF Classifications for Integrated Science I Field Test Items	119
Table 4.B.72: DIF Classifications for Integrated Science II Field Test Items	120
Table 4.B.73: DIF Classifications for Integrated Science III Field Test Items	120
Table 4.B.74: DIF Classifications for Integrated Science IV Field Test Items	120
Table 4.C.1: IRT B Values for English-language Arts Grade 2	121
Table 4.C.2: IRT B Values for English-language Arts Grade 3	121
Table 4.C.3: IRT B Values for English-language Arts Grade 4	121
Table 4.C.4: IRT B Values for English-language Arts Grade 5	122
Table 4.C.5: IRT B Values for English-language Arts Grade 6	122
Table 4.C.6: IRT B Values for English-language Arts Grade 7	122
Table 4.C.7: IRT B Values for English-language Arts Grade 8	123
Table 4.C.8: IRT B Values for English-language Arts Grade 9	123
Table 4.C.9: IRT B Values for English-language Arts Grade 10	123
Table 4.C.10: IRT B Values for English-language Arts Grade 11	124
Table 4.C.11: IRT B Values for History-Social Science Grade 8	124
Table 4.C.12: IRT B Values for History-Social Science Grade 10	124
Table 4.C.13: IRT B Values for History-Social Science Grade 11	125
Table 4.C.14: IRT B Values for Mathematics Grade 2	125
Table 4.C.15: IRT B Values for Mathematics Grade 3	125
Table 4.C.16: IRT B Values for Mathematics Grade 4	126
Table 4.C.17: IRT B Values for Mathematics Grade 5	126
Table 4.C.18: IRT B Values for Mathematics Grade 6	126
Table 4.C.19: IRT B Values for Mathematics Grade 7	127
Table 4.C.20: IRT B Values for General Mathematics	127
Table 4.C.21: IRT B Values for Algebra I	128
Table 4.C.22: IRT B Values for Geometry	128
Table 4.C.23: IRT B Values for Algebra II	128
Table 4.C.24: IRT B Values for High School Mathematics	129
Table 4.C.25: IRT B Values for Integrated Mathematics I	129
Table 4.C.26: IRT B Values for Integrated Mathematics II	129
Table 4.C.27: IRT B Values for Integrated Mathematics III	130
Table 4.C.28: IRT B Values for Grade 5 Science	130
Table 4.C.29: IRT B Values for Biology	130
Table 4.C.30: IRT B Values for Chemistry	131
Table 4.C.31: IRT B Values for Earth Science	131
Table 4.C.32: IRT B Values for Physics	131
Table 4.C.33: IRT Model Data Fit Distribution for English-language Arts	132
Table 4.C.34: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11	132
Table 4.C.35: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7	132
Table 4.C.36: IRT Model Data Fit Distribution for Mathematics End of Course Tests	133
Table 4.C.37: IRT Model Data Fit Distribution for Science	133
Table 4.C.38: IRT Model Data Fit Distribution for English-language Arts (field test)	133
Table 4.C.39: IRT Model Data Fit Distribution for History (field test)	134

Table 4.C.40: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7 (field test)	134
Table 4.C.41: IRT Model Data Fit Distribution for Mathematics End of Course Tests (field test)	134
Table 4.C.42: IRT Model Data Fit Distribution for Science (field test).....	135
Table 5.A.1: Demographic Summary for English-language Arts Grade 2	143
Table 5.A.2: Demographic Summary for English-language Arts Grade 3	144
Table 5.A.3: Demographic Summary for English-language Arts Grade 4	145
Table 5.A.4: Demographic Summary for English-language Arts Grade 5	146
Table 5.A.5: Demographic Summary for English-language Arts Grade 6	147
Table 5.A.6: Demographic Summary for English-language Arts Grade 7	148
Table 5.A.7: Demographic Summary for English-language Arts Grade 8	149
Table 5.A.8: Demographic Summary for English-language Arts Grade 9	150
Table 5.A.9: Demographic Summary for English-language Arts Grade 10	151
Table 5.A.10: Demographic Summary for English-language Arts Grade 11	152
Table 5.A.11: Demographic Summary for History Social Science Grade 8.....	153
Table 5.A.12: Demographic Summary for History Social Science Grade 10.....	154
Table 5.A.13: Demographic Summary for History Social Science Grade 11.....	155
Table 5.A.14: Demographic Summary for Mathematics Grade 2	156
Table 5.A.15: Demographic Summary for Mathematics Grade 3	157
Table 5.A.16: Demographic Summary for Mathematics Grade 4	158
Table 5.A.17: Demographic Summary for Mathematics Grade 5	159
Table 5.A.18: Demographic Summary for Mathematics Grade 6	160
Table 5.A.19: Demographic Summary for Mathematics Grade 7	161
Table 5.A.20: Demographic Summary for General Mathematics	162
Table 5.A.21: Demographic Summary for Algebra I	163
Table 5.A.22: Demographic Summary for Geometry	164
Table 5.A.23: Demographic Summary for Algebra II.....	165
Table 5.A.24: Demographic Summary for High School Mathematics	166
Table 5.A.25: Demographic Summary for Integrated Mathematics I.....	167
Table 5.A.26: Demographic Summary for Integrated Mathematics II	168
Table 5.A.27: Demographic Summary for Integrated Mathematics III.....	169
Table 5.A.28: Demographic Summary for Grade 5 Science*	170
Table 5.A.29: Demographic Summary for Biology.....	171
Table 5.A.30: Demographic Summary for Chemistry	172
Table 5.A.31: Demographic Summary for Earth Science.....	173
Table 5.A.32: Demographic Summary for Physics.....	174
Table 5.A.33: Demographic Summary for Integrated Science I	175
Table 5.A.34: Demographic Summary for Integrated Science II.....	176
Table 5.A.35: Demographic Summary for Integrated Science III	177
Table 5.A.36: Demographic Summary for Integrated Science IV	178
Table 5.B.1: Accommodation Summary for English-language Arts Grade 2.....	179
Table 5.B.2: Accommodation Summary for English-language Arts Grade 3.....	180
Table 5.B.3: Accommodation Summary for English-language Arts Grade 4.....	181
Table 5.B.4: Accommodation Summary for English-language Arts Grade 5.....	182
Table 5.B.5: Accommodation Summary for English-language Arts Grade 6.....	183
Table 5.B.6: Accommodation Summary for English-language Arts Grade 7	184

Table 5.B.7: Accommodation Summary for English-language Arts Grade 8	185
Table 5.B.8: Accommodation Summary for English-language Arts Grade 9	186
Table 5.B.9: Accommodation Summary for English-language Arts Grade 10	187
Table 5.B.10: Accommodation Summary for English-language Arts Grade 11	188
Table 5.B.11: Accommodation Summary for History Social Science Grade 8	189
Table 5.B.12: Accommodation Summary for History-Social Science Grade 10	190
Table 5.B.13: Accommodation Summary for History-Social Science Grade 11	191
Table 5.B.14: Accommodation Summary for Mathematics Grade 2	192
Table 5.B.15: Accommodation Summary for Mathematics Grade 3	193
Table 5.B.16: Accommodation Summary for Mathematics Grade 4	194
Table 5.B.17: Accommodation Summary for Mathematics Grade 5	195
Table 5.B.18: Accommodation Summary for Mathematics Grade 6	196
Table 5.B.19: Accommodation Summary for Mathematics Grade 7	197
Table 5.B.20: Accommodation Summary for General Mathematics	198
Table 5.B.21: Accommodation Summary for Algebra I	199
Table 5.B.22: Accommodation Summary for Geometry	200
Table 5.B.23: Accommodation Summary for Algebra II	201
Table 5.B.24: Accommodation Summary for High School Mathematics	202
Table 5.B.25: Accommodation Summary for Integrated Mathematics I	203
Table 5.B.26: Accommodation Summary for Integrated Mathematics II	204
Table 5.B.27: Accommodation Summary for Integrated Mathematics III	205
Table 5.B.28: Accommodation Summary for Grade 5 Science	206
Table 5.B.29: Accommodation Summary for Biology	207
Table 5.B.30: Accommodation Summary for Chemistry	208
Table 5.B.31: Accommodation Summary for Earth Science	209
Table 5.B.32: Accommodation Summary for Physics	210
Table 5.B.33: Accommodation Summary for Integrated Science I	211
Table 5.B.34: Accommodation Summary for Integrated Science II	212
Table 5.B.35: Accommodation Summary for Integrated Science III	213
Table 5.B.36: Accommodation Summary for Integrated Science IV	214
Table 5.C.1: Distribution of CST Scaled Scores for English-language Arts	215
Table 5.C.2: Distribution of CST Scaled Scores for History/Social Sciences	215
Table 5.C.3: Distribution of CST Scaled Scores for Mathematics Grade 2 through 7	216
Table 5.C.4: Distribution of CST Scaled Scores for Mathematics End of Course Tests	216
Table 5.C.5: Distribution of CST Scaled Scores for Science	217
Table 5.D.1: Reliabilities and Standard Errors of Measurement for the CSTs	218
Table 5.D.2: Sub-score Reliabilities and Correlations for English-language Arts	219
Table 5.D.3: Sub-score Reliabilities and Correlations for History	220
Table 5.D.4: Sub-score Reliabilities and Correlations for Mathematics	221
Table 5.D.5: Sub-score Reliabilities and Correlations for Science*	223
Table 5.D.6: Scaled Score Conditional Standard Error of Measurement	225
Table 5.E.1: Inter-Rater Analyses for ELA Grade 4	226
Table 5.E.2: Inter-Rater Analyses for ELA Grade 7	226
Table 5.E.3: Descriptive Statistics for the Ratings by the Two Raters	226
Table 5.E.4: Distribution of Writing Scores for ELA Grade 4	227
Table 5.E.5: Distribution of Writing Scores for ELA Grade 7	227

Table 5.E.6 Generalizability Analyses for Grade 4 Writing — [(Person: Essay) x Rater Design]	227
Table 5.E.7: Generalizability Analyses for Grade 7 Writing — [(Person: Essay) x Rater Design]	228
Table 5.F.1: Reliability of Classification for English-language Arts Grade 2	229
Table 5.F.2: Reliability of Classification for English-language Arts Grade 3	229
Table 5.F.3: Reliability of Classification for English-language Arts (Reading) Grade 4	229
Table 5.F.4: Reliability of Classification for English-language Arts (Reading & Writing) Grade 4	230
Table 5.F.5: Reliability of Classification for English-language Arts Grade 5	230
Table 5.F.6: Reliability of Classification for English-language Arts Grade 6	230
Table 5.F.7: Reliability of Classification for English-language Arts (Reading) Grade 7	231
Table 5.F.8: Reliability of Classification for English-language Arts (Reading & Writing) Grade 7	231
Table 5.F.9: Reliability of Classification for English-language Arts Grade 8	231
Table 5.F.10: Reliability of Classification for English-language Arts Grade 9	232
Table 5.F.11: Reliability of Classification for English-language Arts Grade 10	232
Table 5.F.12: Reliability of Classification for English-language Arts Grade 11	232
Table 5.F.13: Reliability of Classification for History Grade 8	233
Table 5.F.14: Reliability of Classification for History Grade 10	233
Table 5.F.15: Reliability of Classification for History Grade 11	233
Table 5.F.16: Reliability of Classification for Mathematics Grade 2	234
Table 5.F.17: Reliability of Classification for Mathematics Grade 3	234
Table 5.F.18: Reliability of Classification for Mathematics Grade 4	234
Table 5.F.19: Reliability of Classification for Mathematics Grade 5	235
Table 5.F.20: Reliability of Classification for Mathematics Grade 6	235
Table 5.F.21: Reliability of Classification for Mathematics Grade 7	235
Table 5.F.22: Reliability of Classification for General Mathematics	236
Table 5.F.23: Reliability of Classification for Algebra I	236
Table 5.F.24: Reliability of Classification for Geometry	236
Table 5.F.25: Reliability of Classification for Algebra II	237
Table 5.F.26: Reliability of Classification for High School Mathematics	237
Table 5.F.27: Reliability of Classification for Integrated Mathematics I	237
Table 5.F.28: Reliability of Classification for Integrated Mathematics II	238
Table 5.F.29: Reliability of Classification for Integrated Mathematics III	238
Table 5.F.30: Reliability of Classification for Grade 5 Science	238
Table 5.F.31: Reliability of Classification for Biology	239
Table 5.F.32: Reliability of Classification for Chemistry	239
Table 5.F.33: Reliability of Classification for Earth Science	239
Table 5.F.34: Reliability of Classification for Physics	240
Table 5.F.35: Reliability of Classification for Integrated Science I	240
Table 5.F.36: Reliability of Classification for Integrated Science II	240
Table 5.F.37: Reliability of Classification for Integrated Science III	241
Table 5.F.38: Reliability of Classification for Integrated Science IV	241
Table 6.A.1: Number of Examinees Tested, Scaled Score Means and Standard Deviations of CSTs across 2002, 2003 & 2004	244

Table 6.A.2: Percentage of Proficient & Above and Percentage of Advanced across 2002, 2003 & 2004	245
Table 6.A.3: Observed Score Ranges of CSTs across 2002, 2003 & 2004	246
Table 6.A.4: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for English-language Arts (Grades 2 to 6)	247
Table 6.A.5: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for English-language Arts (Grades 7 to 11)	248
Table 6.A.6: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for History (Grades 8, 10 and 11).....	249
Table 6.A.7: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (Grades 2 to 6).....	250
Table 6.A.8: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (Grade 7, General Math, Algebra I, Geometry and Algebra II).....	251
Table 6.A.9: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (High School Math & Integrated Math I, II and III)	252
Table 6.A.10: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Science (Biology, Chemistry, Earth Science and Physics)	253
Table 6.A.11: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Science (Integrated Science I, II, III and IV)	254
Table 6.B.1: Average Proportion Correct of CSTs across 2002, 2003 & 2004.....	255
Table 6.B.2: Overall IRT b-values for Operational Test Items across 2002, 2003 & 2004	256
Table 6.B.3: Reliabilities and Standard Error of Measurement (SEM) of CSTs across 2002, 2003 & 2004	257

LIST OF FIGURES

Figure 4.1: Items from the 2004 Mathematics Grade 6 Field Test Calibration..... 78

Chapter 1: Introduction

Background

In 1997 and 1998, the California State Board of Education (SBE) adopted rigorous content standards in four major Reporting Clusters: English language arts, mathematics, history/social science, and science. These standards were designed to guide instruction and learning for all students in the state and to bring California students to world-class levels of achievement.

In order to measure and evaluate student achievement of the content standards, the state instituted the Standardized Testing and Reporting (STAR) program. This program, administered annually, was authorized in 1997 by state law (Senate Bill 376). The purpose of the STAR program is to help measure how well students are learning required academic skills.

The STAR program has four components:

- California Standards Tests (CSTs) produced for California public schools
- California Achievement Tests, Sixth Edition Survey (CAT/6), published by CTB/McGraw-Hill
- California Alternate Performance Assessment (CAPA), a new assessment produced for students with significant cognitive disabilities, who are not able to take the CSTs or the CAT/6
- Spanish Assessment of Basic Education, Second Edition (SABE/2), an achievement test in Spanish published by CTB/McGraw-Hill

All students enrolled in grades 2 through 11 in California public schools on the day testing began were required to take the CSTs or CAPA. This included English learners, regardless of the length of time they have been in California schools or their fluency in English, and students with disabilities who receive special education services. Parents could submit written requests to have their children exempted from any part or all of the tests. Only students with written parent requests were exempted from the tests. For students with significant cognitive disabilities, the decision to administer the CSTs or CAPA was made by their Individualized Education Program (IEP) team.

This technical report addresses the characteristics of the California Standards Tests administered in Spring 2004. The 2004 CSTs included the following tests:

English-Language Arts, grades 2 to 11	History-Social Science, grades 8, 10, and 11
Mathematics, grades 2 to 7	Grade 5 Science
General Mathematics, grades 8 and 9	Biology
Algebra I	Chemistry
Geometry	Earth Science
Algebra II	Physics
High School Summative Mathematics	Integrated Science I
Integrated Mathematics I	Integrated Science II
Integrated Mathematics II	Integrated Science III
Integrated Mathematics III	Integrated Science IV

All CSTs are comprised of four-option multiple-choice items. The grade 4 and 7 English-language arts tests also include one essay item. These essay items are reported on an eight-point scale, which is based on the sum of two ratings on a four-point rubric.

The testing period for the CSTs is the period of all instructional days from March 15 to May 14 of each school year. The CSTs are administered at different times depending upon the progression of the school year within each particular district. Specifically, schools must administer the CSTs and the CAT/6 tests within a 21-day window comprised of the 10 days before and 10 days after the day on which 85 percent of the instructional year is completed. The CSTs are administered in an un-timed fashion; CDE guidelines of times within which most students would be expected to finish the CSTs by test and grade level can be found at <http://www.cde.ca.gov/tg/sr/documents/cstcharts.pdf>.

Results of the CSTs are reported using scaled scores, which in 2004 ranged for each test from 150 to 600. In addition, the CST test performance for each student is categorized into one of the following performance levels: *far below basic*, *below basic*, *basic*, *proficient*, and *advanced*. For all CSTs, the minimum scaled scores defining *basic* and *proficient* are 300 and 350, respectively. The minimum scaled scores defining *below basic* and *advanced* vary by CST.

In addition to total scaled scores, CST score report information includes student performance on various reporting clusters. This information is reported in terms of percent correct scores.

All CSTs included a set of six field-test items which were not counted towards students' scores. Most CSTs consisted of 20 to 25 versions, each of which contained a different set of six field-test items.

Overview of the Technical Report

This technical report is divided into six chapters. Chapter two describes the procedures followed in developing valid CST items and in constructing the 2004 CSTs. In addition, characteristics of the constructed 2004 test forms are presented in this chapter. Chapter three describes the procedures followed to equate and scale the CSTs and documents the CST score equating conversions. Chapter four summarizes item-level analyses of the CSTs, including the operational CST items and the field-test items. Summaries of classical item analysis statistics, DIF statistics, Rasch difficulty estimates, and evaluations of the Rasch model-data fit are included in this chapter. Chapter five summarizes test-level analyses, including test reliability, standard errors of measurement, accuracy/consistency of the CST performance level classifications, and intercorrelations of reporting cluster scores. Chapter six presents historical comparisons of various item and test level indicators, over a period of three years. Each chapter contains summary tables in the body of the text. However, extended appendices reporting technical data for the different CSTs are listed at the end of the relevant chapters.

Chapter 2: STAR Test Development Procedures

The CSTs were constructed to measure the California content standards as well as to meet psychometric criteria for difficulty and reliability. The psychometric criteria were evaluated using projections based on item statistics from field-testing or previous operational administrations.

Test Assembly Procedures

The CSTs were developed by Test Development staff at Educational Testing Service (ETS) in conjunction with the California Department of Education (CDE). In addition, the ETS Content Review Panels (CRPs) were invited to review the test forms. For each test, the California content standards were used as a basis for choosing items. Additional technical targets (e.g., difficulty and discrimination) for test construction were established based on past characteristics of the tests, with the goal of maintaining parallel forms to the greatest extent possible. However, for the English-Language Arts CSTs, content revisions occurred in 2003 because Stanford 9 items were no longer included, and new CST test blueprints were established. In addition, the Grade 9 History-Social Science CST was also discontinued in 2003 and a new History-Social Science CST in Grade 8 was developed.

Test Specifications

Statistical Specifications

The primary statistical targets used for CST test assembly were the mean p-value of items in a test that is an indicator of the overall difficulty, and the mean item point-biserial correlation that is a measure of how well the test discriminates among test takers. These specifications were developed from the analyses of test forms administered in years 2001 to 2003. Table 2.A.1 presents the target statistical specifications for each test. The minimum target value for mean item point-biserial was set at 0.14 for each test. The minimum mean percent-correct value (p-value) was set at 0.20 while the maximum p-value was chosen to be 0.95 for each test. Ranges of mean p-values and point-biserial were also specified for each test. Based on the performance in previous years, the highest mean p-values and point-biserial correlation were specified for Mathematics tests and lowest for History/Social Science tests. Since the items included in the integrated tests are drawn from other tests, targets for their statistical characteristics were not defined separately.

Content Specifications

ETS developed all CST test items to conform to the State Board of Education (SBE)-adopted content standards and test blueprints. The test blueprints for the CSTs can be found on the CDE web site at the following address: <http://www.cde.ca.gov/ta/tg/sr/blueprints.asp>. Although the test blueprints called for distributions of items at the individual standard level, the content for each CST was aggregated across standards into sub-content areas referred to as reporting clusters

for reporting purposes. For each CST reporting cluster, the percentage of questions correctly answered by students was reported. A description of the CST reporting clusters and the standards that comprise the reporting clusters is provided in Appendix 2.B.

Item Review Process

The items selected for each CST undergo an extensive item review process that is designed to provide all California students with the best standards-based tests possible. This section summarizes the various reviews that ensured the validity of 2004 CST items and test forms.

Internal Reviews

After the items were written by ETS-trained item writers, a series of internal reviews was conducted to make sure that each item was measuring the appropriate California content standard. The internal reviews also examined the overall technical quality of the test items before they were prepared for presentation to CDE, the Content Review Panels (CRP), and the Statewide Pupil Assessment Review (SPAR) panel. The ETS review process for the CSTs included the following:

- Internal content review
- Internal editorial review
- Internal sensitivity review

Internal Content Review

In the internal content review, the lead content area assessment specialists and development team members evaluated the content of the items, including the match to the California content standards, the match to the item specifications, and overall technical quality. Test items received at least two, and usually three, reviews by ETS content area assessment specialists in terms of the following criteria:

- Match of each item to the identified standard
- Relevance of each item as the item relates to the purpose of the test
- Match of each item to the item specifications, including cognitive level
- Match of each item to the principles of quality item development
- Difficulty of the item
- Accuracy of the content of the item
- Readability of the item or passage
- Grade-level appropriateness of the item
- Appropriateness of any artwork, graphs, figures, etc.

The assessment specialists also checked all items against their classification codes, both to evaluate the correctness of the classification and to ensure that a given task was of a type appropriate to the outcome it was intended to measure.

Internal Editorial Review

After the content area assessment specialists reviewed each item, a group of specially trained editors reviewed each item in preparation for review by CDE and the CRPs. The editors checked questions for clarity, correctness of language, appropriateness of language for the grade level assessed, adherence to the style guidelines, and conformity with accepted item writing practices.

Internal Sensitivity Review

ETS assessment specialists who are specially trained to identify and eliminate questions that contain content or wording that could be construed to be offensive to or biased against members of specific ethnic, racial, or gender groups conducted the next level of review. These trained staff members reviewed every item before it was prepared for CDE and CRP review.

Content Review Panels (CRPs)

ETS staff and test developers worked with CRPs as part of the item development process for the California Standards Tests. CDE provided the names and contact information for all panel members, and ETS contacted them about upcoming meetings.

The Content Review Panel is an advisory panel to CDE and ETS on areas related to the item development for the California Standards Tests. ETS and CDE responsibilities include:

- CDE is responsible for working with ETS to determine CRP membership.
- Communications regarding panel membership and procedures are between CDE and ETS.
- If requested, ETS submits CRP agendas and materials to CDE for review and approval at least two weeks before scheduled CRP meetings.
- ETS is responsible for preparing meeting materials, facilitating meetings, notifying panel members of meeting dates, times and locations, and arranging lodging, travel, and meals for panel members. Meeting dates are approved in advance by CDE. All meetings are held in Sacramento, unless otherwise authorized by CDE.
- ETS is responsible for collecting information about the panel members as requested by CDE.
- ETS is responsible for providing a summary of the panel meetings and attendance list to CDE.
- ETS pays for substitute coverage for teachers and administrators serving on the panels. ETS is authorized to charge CDE for the cost of the substitute coverage.

The CRPs were responsible for reviewing test specifications/blueprints and all newly developed items for alignment to the California Content Standards. The panels also reviewed the items for accuracy of item content, clarity of phrasing, and item quality. The CRPs consisted of approximately 30 members for each content area. Panel membership represented educators, including county and district education administrators; university and college subject-matter specialists; and representatives of major educational organizations.

CRP Meetings for Review of CST Items

The ETS content area assessment specialists facilitated the CST CRP item review meetings. As appropriate, the meetings began with a brief training session on how to review items. Test development specialists provided this training, which consisted of the following steps:

- An overview of the purpose and scope of the CST
- An overview of the CST test design specifications and blueprints
- An analysis of the CST Item Specifications
- An overview of criteria for evaluating multiple-choice test items and for reviewing constructed-response writing tasks
- Reviewing and evaluating items for bias and sensitivity problems

The criteria for evaluating multiple-choice items and constructed-response writing tasks included overall technical quality, match to the California content standards, match to the construct being assessed by the standard, difficulty range, clarity, correctness of the answer, plausibility of the distractors, as well as more global issues, including (for ELA) appropriateness of reading passages and passage difficulty and readability. The committee was also trained on how to make recommendations for revising items. The guidelines for reviewing items are summarized below.

Does the item—

- Have one and only one clearly correct answer?
- Measure the content standard?
- Match the test item specifications?
- Align with the construct being measured?
- Test worthwhile concepts or information?
- Reflect good and current teaching practices?
- Have a stem that gives the student a full sense of what the item is asking?
- Avoid unnecessary wordiness?
- Use response options that relate to the stem in the same way?
- Use response options that are plausible and have reasonable misconceptions and errors?
- Avoid having one response option that is markedly different from the others?
- Avoid clues to students, such as absolutes or words repeated in both the stem and options?
- Reflect content that is free from bias against any person or group?

Is the stimulus (if any) for the item—

- Required in order to answer the item?
- Likely to be interesting to students?
- Clearly and correctly labeled?
- Providing all the information needed to answer the item?

The CRP members also evaluated individual test questions as to whether they included the contributions of various groups in the United States. Test questions also were studied so as to avoid stereotyping, as well as language, symbols, words, phrases, or examples that reflected a gender or ethnic bias or that had the potential to offend any group.

In general, the review process promoted a general awareness of and responsiveness to the following:

- Cultural diversity.
- Diversity of background, cultural tradition and viewpoints to be found in the test-taking populations
- Changing roles and attitudes toward various groups
- Role of language in setting and changing attitudes toward various groups
- Contributions of diverse groups (including ethnic and minority groups, individuals with disabilities and women) to the history and culture of the United States and the achievements of individuals within these groups

SPAR Review Panel

The SPAR Panel is responsible for reviewing and approving a single achievement test to be used statewide for the testing of students in California public schools, grades 2-11. At the SPAR panel meetings, all new items were presented in binders for review. The SPAR panel representatives ensured that the test items conformed to the requirements of Education Code Section 60614. The constructed-response writing tasks were also prepared for review. If specific items and/or constructed-response writing tasks were rejected by the SPAR panel, the items and/or tasks were replaced. For the SPAR panel meeting, the item development coordinator, or an ETS content specialist agreed to in advance by CDE attended the opening session and remained in a nearby location to be available to respond to any questions during the course of the meeting.

Technical Characteristics of the Assembled Tests

Technical characteristics of the assembled tests were estimated using Gulliksen's (1987) formula for estimating test reliability from item p-values and item point-biserial correlations:

$$r_{xx} = \left(\frac{K}{K-1} \right) \left(1 - \frac{\sum_{g=1}^K s_g^2}{\left(\sum_{g=1}^K r_{xg} s_g \right)^2} \right), \quad (1)$$

where,

K is the number of items in the test,

s_g^2 is the estimated item variances, $p_g(1-p_g)$, where p_g is the item p-value for item g,

r_{xg} is the item point-biserial correlation for item g, and

$r_{xg} s_g$ is the item reliability index.

In addition, estimated test means were calculated by summing the item p-values and estimated standard deviations were calculated by summing the item reliability indices. Table 2.A.2 presents these summary values by subject area and grade.

In general, the projected reliabilities of the CSTs were at or above the levels considered acceptable for such tests, ranging from 0.87 to 0.94. These values were also consistent with reliability for the CSTs in past several years. The English-language Arts tests had the highest reliabilities, ranging from 0.92 to 0.94 across all grades. These were very similar to values projected for 2003 and just slightly lower than values prior to 2003, despite the fact that like 2003, current ELA CSTs had 75 items compared to 90 items in previous years.

Consistent with the results obtained on 2003 administration, the projected reliabilities for the History and Science tests for the current administration were slightly higher. As expected, the increased field-testing that occurred in 2003 provided additional items to improve the reliabilities of the Science and History-Social Science tests in future years.

It should be noted that the projected reliabilities in Table 2.A.2 were based on item p-values and point-biserial correlations that for many of the items were based on external field-testing using samples of students that were not fully representative of the state. Chapters 4 and 5 present item p-values, point-biserial correlations, and test reliability estimates based on the data from the 2004 CST administration.

As the CST item banks are expanded to include large numbers of items that have been calibrated to the common Rasch IRT scale, it is expected that the Rasch difficulty estimates will be used as part of test assembly. This will make it easier to accurately predict the operational performance of assembled CST test forms prior to the operational administration.

References

Gulliksen, H. (1987). Theory of mental tests. Hillsdale, NJ: Erlbaum.

Appendix 2.A

Table 2.A.1: Statistical Specifications for CST Tests

Subject	Test	Mean P+	Min P+	Max P+	Mean	Min Point
					Point Biserial	Biserial
<i>English Language Arts</i>	2	0.58-0.62	0.20	0.95	> 0.37	0.14
	3	0.58-0.62	0.20	0.95	> 0.37	0.14
	4	0.56-0.60	0.20	0.95	> 0.37	0.14
	5	0.55-0.60	0.20	0.95	> 0.37	0.14
	6	0.55-0.60	0.20	0.95	> 0.37	0.14
	7	0.55-0.60	0.20	0.95	> 0.37	0.14
	8	0.55-0.60	0.20	0.95	> 0.37	0.14
	9	0.55-0.60	0.20	0.95	> 0.37	0.14
	10	0.55-0.60	0.20	0.95	> 0.37	0.14
	11	0.55-0.60	0.20	0.95	> 0.37	0.14
<i>History</i>	8	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
	10	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
	11	0.48 – 0.53	0.20	0.95	0.30 – 0.35	0.14
<i>Mathematics</i>	2	0.65 – 0.70	0.20	0.95	0.39 – 0.45	0.14
	3	0.61 – 0.64	0.20	0.95	0.39 – 0.45	0.14
	4	0.61 – 0.64	0.20	0.95	0.39 – 0.45	0.14
	5	0.53 - 0.57	0.20	0.95	0.39 – 0.45	0.14
	6	0.53 – 0.57	0.20	0.95	0.39 – 0.45	0.14
	7	0.52 – 0.55	0.20	0.95	0.39 – 0.45	0.14
	General Mathematics	0.50 – 0.53	0.20	0.95	0.36 – 0.40	0.14
	Algebra I	0.50 – 0.53	0.20	0.95	0.31 – 0.35	0.14
	Geometry	0.50 – 0.53	0.20	0.95	0.33 – 0.37	0.14
	Algebra II	0.53 – 0.57	0.20	0.95	0.33 – 0.37	0.14
	High School Math	0.59 – 0.63	0.20	0.95	0.36 – 0.39	0.14
<i>Science</i>	Grade 5 Science	0.52-0.55	0.20	0.95	> 0.34	0.14
	Biology	0.52-0.55	0.20	0.95	> 0.34	0.14
	Chemistry	0.52-0.55	0.20	0.95	> 0.34	0.14
	Earth Science	0.52-0.55	0.20	0.95	> 0.34	0.14
	Physics	0.52-0.55	0.20	0.95	> 0.34	0.14

Table 2.A.2: Summary of 2004 CST Projected Technical Characteristics

Subject	Test	Number of Items	Mean RS*	Std. Dev. RS	Mean P-value	Reliability
<i>English Language Arts</i>	2	64	37.61	13.23	0.59	0.93
	3	65	38.37	12.94	0.59	0.93
	4	75	41.24	14.91	0.55	0.93
	5	75	42.48	15.03	0.57	0.94
	6	75	40.92	14.12	0.55	0.93
	7	75	41.65	14.35	0.56	0.93
	8	75	41.30	13.64	0.55	0.92
	9	75	41.47	14.32	0.55	0.93
	10	75	41.14	15.21	0.55	0.94
	11	75	41.56	14.74	0.55	0.93
<i>History</i>	8	75	35.68	11.64	0.48	0.88
	10	60	28.84	10.56	0.48	0.89
	11	60	29.52	10.13	0.49	0.88
<i>Mathematics</i>	2	65	46.24	11.12	0.71	0.92
	3	65	41.41	12.71	0.64	0.93
	4	65	40.15	13.21	0.62	0.93
	5	65	34.80	11.88	0.54	0.91
	6	65	34.56	12.52	0.53	0.92
	7	65	33.76	11.85	0.52	0.91
	General Mathematics	65	32.31	11.64	0.50	0.90
	Algebra I	65	32.40	11.00	0.50	0.89
	Geometry	65	34.94	10.89	0.54	0.89
	Algebra II	64	34.42	10.46	0.54	0.88
	High School Mathematics	65	38.05	11.50	0.59	0.91
	Integrated Math I	65	33.59	11.67	0.52	0.91
	Integrated Math II	65	33.24	10.31	0.51	0.87
	Integrated Math III	64	34.93	10.37	0.55	0.88
<i>Science</i>	Grade 5 Science	60	29.13	10.71	0.49	0.89
	Biology	60	31.84	10.19	0.53	0.88
	Chemistry	60	31.79	10.45	0.53	0.89
	Earth Sciences	60	28.53	10.46	0.48	0.88
	Physics	60	31.74	11.30	0.53	0.91
	Integrated Science I	60	31.53	10.62	0.53	0.89
	Integrated Science II	60	31.57	10.90	0.53	0.90
	Integrated Science III	60	28.54	10.27	0.48	0.88
	Integrated Science IV	60	32.27	10.57	0.54	0.89

*Raw Score

Appendix 2.B
Reporting Clusters
English-Language Arts

Grade 2 English-language Arts Standards Test

- | | |
|---------------------------------------|----------|
| • <i>Reading</i> | |
| Word Analysis and Vocabulary | 21 items |
| Reading Comprehension | 15 items |
| Literary Response and Analysis | 6 items |
| • <i>Writing</i> | |
| Writing Strategies | 8 items |
| Written and Oral Language Conventions | 14 items |

Grade 3 English-language Arts Standards Test

- | | |
|---------------------------------------|----------|
| • <i>Reading</i> | |
| Word Analysis and Vocabulary | 20 items |
| Reading Comprehension | 15 items |
| Literary Response and Analysis | 8 items |
| • <i>Writing</i> | |
| Writing Strategies | 9 items |
| Written and Oral Language Conventions | 13 items |

Grade 4 English-language Arts Standards Test

- | | |
|---------------------------------------|-------------------|
| • <i>Reading</i> | |
| Word Analysis and Vocabulary | 18 items |
| Reading Comprehension | 15 items |
| Literary Response and Analysis | 9 items |
| • <i>Writing</i> | |
| Writing Strategies | 15 items |
| Written and Oral Language Conventions | 18 items |
| Writing Applications | 8 points (1 task) |

Grade 5 English-language Arts Standards Test

- | | |
|---------------------------------------|----------|
| • <i>Reading</i> | |
| Word Analysis and Vocabulary | 14 items |
| Reading Comprehension | 16 items |
| Literary Response and Analysis | 12 items |
| • <i>Writing</i> | |
| Writing Strategies | 16 items |
| Written and Oral Language Conventions | 17 items |

Grade 6 English-language Arts Standards Test

- | | |
|------------------------------|----------|
| • <i>Reading</i> | |
| Word Analysis and Vocabulary | 13 items |
| Reading Comprehension | 17 items |

Literary Response and Analysis	12 items
• <i>Writing</i>	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items

Grade 7 English-language Arts Standards Test

• <i>Reading</i>	
Word Analysis and Vocabulary	11 items
Reading Comprehension	18 items
Literary Response and Analysis	13 items
• <i>Writing</i>	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items
Writing Applications	8 points (1 task)

Grade 8 English-language Arts Standards Test

• <i>Reading</i>	
Word Analysis and Vocabulary	9 items
Reading Comprehension	18 items
Literary Response and Analysis	15 items
• <i>Writing</i>	
Writing Strategies	17 items
Written and Oral Language Conventions	16 items

Grade 9 English-language Arts Standards Test

• <i>Reading</i>	
Word Analysis and Vocabulary	8 items
Reading Comprehension	18 items
Literary Response and Analysis	16 items
• <i>Writing</i>	
Writing Strategies	20 items
Written and Oral Language Conventions	13 items

Grade 10 English-language Arts Standards Test

• <i>Reading</i>	
Word Analysis and Vocabulary	8 items
Reading Comprehension	18 items
Literary Response and Analysis	16 items
• <i>Writing</i>	
Writing Strategies	20 items
Written and Oral Language Conventions	13 items

Grade 11 English-language Arts Standards Test

• <i>Reading</i>	
Word Analysis and Vocabulary	8 items
Reading Comprehension	19 items

Literary Response and Analysis	17 items
• <i>Writing</i>	
Writing Strategies	22 items
Written and Oral Language Conventions	9 items

History-Social Science

Grade 8 History-Social Science Standards Test

• <i>World History and Geography: Ancient Civilizations</i>	16 items
(Grade 6 Standards)	
• <i>World History and Geography: Medieval and Early Modern Times</i>	
(Grade 7 Standards)	
Late Antiquity and the Middle Ages	14 items
Renaissance/Reformation	10 items
• <i>United States History and Geography: Growth and Conflict</i>	
(Grade 8 Standards)	
U.S. Constitution and the Early Republic	22 items
Civil War and Its Aftermath	13 items

Grade 10 History-Social Science Standards Test

• <i>Development of Modern Political Thought</i>	13 items
(Standards: 1-2)	
• <i>Industrial Expansion and Imperialism</i>	
(Standards: 3-4)	
• <i>Causes and Effects of the First World War</i>	14 items
(Standards: 5-6)	
• <i>Causes and Effects of the Second World War</i>	13 items
(Standards: 7-8)	
• <i>International Developments in the Post-World War II Era</i>	10 items
(Standards: 9-10)	

Grade 11 History-Social Science Standards Test

• <i>Foundations of American Political and Social Thought</i>	10 items
(Standards: 1 & 3)	
• <i>Industrialization and the U.S. Role as a World Power</i>	13 items
(Standards: 2 & 4)	
• <i>United States Between the World Wars</i>	12 items
(Standards: 5-6)	
• <i>World War II and Foreign Affairs</i>	12 items
(Standards: 7 & 9)	
• <i>Post-World War II Domestic Issues</i>	13 items
(Standards: 8, 10, & 11)	

Mathematics

Grade 2 Mathematics Standards Test

- | | |
|---|----------|
| • <i>Number Sense</i> | |
| Place value, addition, and subtraction | 14 items |
| Multiplication, division, and fractions | 24 items |
| • <i>Algebra and Functions</i> | 6 items |
| • <i>Measurement and Geometry</i> | 14 items |
| • <i>Statistics, Data Analysis, and Probability</i> | 7 items |

Grade 3 Mathematics Standards Test

- | | |
|---|----------|
| • <i>Number Sense</i> | |
| Place value, fractions, and decimals | 16 items |
| Addition, subtraction, multiplication, and division | 16 items |
| • <i>Algebra and Functions</i> | 12 items |
| • <i>Measurement and Geometry</i> | 16 items |
| • <i>Statistics, Data Analysis, and Probability</i> | 5 items |

Grade 4 Mathematics Standards Test

- | | |
|---|----------|
| • <i>Number Sense</i> | |
| Decimals, fractions, and negative numbers | 17 items |
| Operations and factoring | 14 items |
| • <i>Algebra and Functions</i> | 18 items |
| • <i>Measurement and Geometry</i> | 12 items |
| • <i>Statistics, Data Analysis, and Probability</i> | 4 items |

Grade 5 Mathematics Standards Test

- | | |
|---|----------|
| • <i>Number Sense</i> | |
| Estimation, percents, and factoring | 12 items |
| Operations with fractions and decimals | 17 items |
| • <i>Algebra and Functions</i> | 17 items |
| • <i>Measurement and Geometry</i> | 15 items |
| • <i>Statistics, Data Analysis, and Probability</i> | 4 items |

Grade 6 Mathematics Standards Test

- | | |
|--|----------|
| • <i>Number Sense</i> | |
| Ratios, proportions, percentages, and negative fractions | 15 items |
| Operations and problem solving with fractions | 10 items |
| • <i>Algebra and Functions</i> | 19 items |
| • <i>Measurement and Geometry</i> | 10 items |
| • <i>Statistics, Data Analysis, and Probability</i> | 11 items |

Grade 7 Mathematics Standards Test

- | | |
|-----------------------|----------|
| • <i>Number Sense</i> | |
| Rational numbers | 14 items |

Exponents, Powers, and Roots	8 items
• <i>Algebra and Function</i> Quantitative relationships and evaluating expressions	10 items
Multi-step problems, graphing, and functions	15 items
• <i>Measurement and Geometry</i>	13 items
• <i>Statistics, Data Analysis, and Probability</i>	5 items

Grade 8/9 General Mathematics Standards Test

• <i>Number Sense</i> Rational numbers Exponents, powers, and roots	14 items 10 items
• <i>Algebra and Functions</i> Quantitative relationships and evaluating expressions Multi-step problems, graphing, and functions	11 items 10 items
• <i>Measurement and Geometry</i>	11 items
• <i>Statistics, Data Analysis, and Probability</i>	9 items

Algebra I Standards Test

• <i>Number Properties, Operations, and Linear Equations</i> (Standards: 1.0 -5.0)	17 items
• <i>Graphing and Systems of Linear Equations</i> (Standards: 6.0 -9.0)	14 items
• <i>Quadratics and Polynomials</i> (Standards: 10.0, 11.0, 14.0, and 19.0 -23.0)	21 items
• <i>Functions and Rational Expressions</i> (Standards: 12.0, 13.0, and 15.0 -18.0)	13 items
<i>(Note: Standards 24.0 -25.3 are embedded within the 65 items)</i>	

Geometry Standards Test

• <i>Logic and Geometric Proofs</i> (Standards: 1.0 -7.0)	22 items
• <i>Volume and Area Formulas</i> (Standards: 8.0 -11.0)	11 items
• <i>Angle Relationships, Constructions, and Lines</i> (Standards: 12.0 -17.0)	17 items
• <i>Trigonometry</i> (Standards: 18.0 -22.0)	15 items

Algebra II Standards Test

• <i>Polynomials and Rational Expressions</i> (Standards: 1.0 -4.0, and 7.0)	19 items
• <i>Quadratics, Conics, and Complex Numbers</i> (Standards: 5.0, 6.0, 8.0 -10.0, 16.0 and 17.0)	17 items
• <i>Exponents and Logarithms</i> (Standards: 11.0 -15.0)	15 items

- *Series, Combinatorics, and Probability and Statistics*
(Algebra II Standards 18.0- 25.0 and Probability and Statistics 2.0 and 7.0)
- 13 items

High School Mathematics Standards Test

- *Algebra I* 18 items
- *Geometry* 19 items
- *Algebra II* 23 items
- *Probability and Statistics* 5 items

Integrated 1 Mathematics Standards Test

- *Algebra I*
Number Properties, Operations, and Linear Equations 15 items
Graphing 9 items
Quadratics and Polynomials 14 items
Functions and Rational Expressions 7 items
- *Geometry* 20 items

Integrated 2 Mathematics Standards Test

- *Algebra I* 20 items
- *Geometry*
Logic and Geometric Proofs 21 items
Angle Relationships, Constructions, and Lines 9 items
- *Trigonometry* 10 items
- *Algebra II/ Probability and Statistics* 5 items

Integrated 3 Mathematics Standards Test

- *Geometry* 5 items
- *Algebra II*
Polynomials and Rational Expressions 19 items
Quadratics, Conics, and Complex Numbers 17 items
Exponents and Logarithms 15 items
Series, Combinatorics, and Probability and Statistics 8 items

Science

Biology Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Cell Biology* 9 items
Cell Biology (Standards: 1 a-h)
- *Genetics* 18 items
Genetics (Standards: 2 a-g, 3 a-b, 4 a-e, 5 a-c)
- *Ecology and Evolution* 16 items
Ecology (Standards: 6 a-f)

- Evolution (Standards: 7 a-d, 8 a-e)
- *Physiology* 11 items
Physiology (Standards: 9 a-e, 10 a-e)

Chemistry Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Atomic and Molecular Structure* 8 items
Atomic and Molecular Structure (Standards: 1 a-e)
Nuclear Processes (Standards: 11 a-e)
- *Chemical Bonds, Biochemistry* 9 items
Chemical Bonds (Standards: 2 a-e)
Organic and Biochemistry (Standards: 10 a-c)
- *Kinetics, Thermodynamics* 14 items
Gases and Their Properties (Standards: 4 a-f)
Chemical Thermodynamics (Standards: 7 a-d)
Solutions (Standards: 6 a-d)
- *Chemical Reactions* 13 items
Acids and Bases (Standards: 5 a-d)
Reaction Rates (Standards: 8 a-c)
Chemical Equilibrium (Standards: 9 a-b)
- *Conservation of Matter and Stoichiometry* 10 items
Conservation of Matter and Stoichiometry (Standards: 3 a-e)

Earth Science Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Astronomy and Cosmology* 12 items
Earth's Place in the Universe (Standards: 1 a-f, 2 a-d)
- *Solid Earth* 14 items
Dynamic Earth Processes (Standards: 3 a-e)
California Geology (Standards: 9 a-c)
- *The Earth's Energy* 28 items
Energy In the Earth System (Standards: 4 a-c, 5 a-e, 6 a-c)
Structure and Composition of the Atmosphere (Standards: 8 a-c)
Biogeochemical Cycles (Standards: 7 a-c)

Physics Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Motion and Forces* 12 items
Motions and Forces (Standards: 1 a-g)
- *Conservation of Energy and Momentum* 12 items
Conservation of Energy and Momentum (Standards: 2 a-g)
- *Heat and Thermodynamics* 9 items
Heat and Thermodynamics (Standards: 3 a-e)

- *Waves*
Waves (Standards: 4 a-f) 10 items
- *Electric and Magnetic Phenomena*
Electric and Magnetic Phenomena (Standards: 5 a-i) 11 items

Integrated Science 1 Standards Test

- *Investigation and Experimentation*
Investigation and Experimentation (Standards: 1 a-n) 6 items
- *Biology/Life Sciences*
Ecology (Standards: 6 a-f)
Evolution (Standards: 8 a-b, e) 10 items
- *Chemistry*
Atomic and Molecular Structure(Standards: 1 a-e)
Chemical Bonds (Standards: 2 a-c)
Acids and Bases (Standards: 5 a, c)
Chemical Thermodynamics (Standards: 7 b-c) 15 items
- *Earth Sciences*
Dynamic Earth Processes (Standards: 3 a-e)
Biogeochemical Cycles (Standards: 7 a-c)
California Geology (Standards: 9 b-c) 17 items
- *Physics*
Waves (Standards: 4 a-b, d-f)
Electric and Magnetic Phenomena (Standards: 5 d-e, h-i) 12 items

Integrated Science 2 Standards Test

- *Investigation and Experimentation*
Investigation and Experimentation (Standards: 1 a-n) 6 items
- *Biology/Life Sciences*
Cell Biology (Standards: 1 a, c-e, h)
Genetics (Standards: 2 a-c, e-g, 3 a-b, 4 a-b) 15 items
- *Chemistry*
Conservation of Matter and Stoichiometry (Standards: 3 a)
Solutions (Standards: 6 a-c)
Organic and Biochemistry (Standards: 10 a-c) 6 items
- *Earth Sciences*
Earth's Place in the Universe (Standards: 1 a, c, f)
Energy In the Earth System (Standards: 4 b, 5 a-c, e, 6 a-c) 15 items
- *Physics*
Motions and Forces (Standards: 1 a-f)
Conservation of Energy and Momentum (Standards: 2 a-d) 18 items

Integrated Science 3 Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Biology/Life Sciences* 16 items
Cell Biology (Standards: 1 b, f, g)
Genetics (Standards: 2 d, 4 c-e, 5 c)
Evolution (Standards: 7 a-d, 8 c-d)
- *Chemistry* 23 items
Conservation of Matter and Stoichiometry (Standards: 3 b-e)
Gases and Their Properties (Standards: 4 a-f)
Solutions (Standards: 6 d)
Reaction Rates (Standards: 8 a-c)
Chemical Equilibrium (Standards: 9 a-b)
- *Earth Sciences* 7 items
Energy In the Earth System (Standards: 4 c)
Structure and Composition of the Atmosphere (Standards: 8 a-c)
- *Physics* 8 items
Motions and Forces (Standards: 1 g)
Conservation of Energy and Momentum (Standards: 2 e-g)
Electric and Magnetic Phenomena (Standards: 5 f-g)

Integrated Science 4 Standards Test

- *Investigation and Experimentation* 6 items
Investigation and Experimentation (Standards: 1 a-n)
- *Biology/Life Sciences* 13 items
Genetics (Standards: 5 a-b)
Physiology (Standards: 9 a-e, 10 a-e)
- *Chemistry* 10 items
Chemical Bonds (Standards: 2 d-e)
Acids and Bases (Standards: 5 b, d)
Chemical Thermodynamics (Standards: 7 a-d)
Nuclear Processes (Standards: 11 a-e)
- *Earth Sciences* 15 items
Earth's Place in the Universe (Standards: 1 b, d-e, 2 a-d)
Energy In the Earth System (Standards: 4 a, 5 d)
California Geology (Standards: 9 a)
- *Physics* 16 items
Heat and Thermodynamics (Standards: 3 a-e)
Waves (Standards: 4 c)
Electric and Magnetic Phenomena (Standards: 5 a-c)

Chapter 3: CST Equating Procedures

The 2004 CSTs were equated to a reference form using a common item equating design and methods based on Item Response Theory (IRT). ETS utilizes a computer system called GENASYS for the IRT item calibration and equating work. As part of this system, a proprietary version of the PARSCALE computer program (Muraki & Bock, 1985) was used and parameterized to result in one-parameter calibrations. Research at ETS has suggested that PARSCALE calibrations done in this manner produce results that are virtually identical to results based on WINSTEPS (Way, Kubiak, Henderson & Julian, 2002). The procedures described below were applied to all CSTs except the four integrated science tests. Special scaling procedures used for the integrated tests will be described later in this section.

The “base” or “reference” calibrations for the CSTs were established by calibrating samples of data from the 2002 administration. This established a scale to which subsequent item calibrations could be linked. The 2004 items were placed on that scale through a set of common items from the 2003 forms. Tables 3.A.1 to 3.A.13 in Appendix 3.A reproduce these conversions for the various tests.

In IRT-based equating, once two forms have been placed on the same IRT scale through their common items, raw scores on a new form can be converted to raw scores on an old form. These converted raw scores can then be transformed to scaled scores through table lookup and linear interpolation. The reference conversions for the 2004 forms were taken from either the 2002 or 2003 forms¹ (see Table 3.1 for specifics)

The procedures used for equating the CSTs involved three steps: item calibration, item parameter scaling, and true score equating. For the item calibrations, the PARSCALE program was constrained by setting a common discrimination value for all items equal to 1.0 / 1.7 (or 0.588) and by setting the lower asymptote for all multiple-choice items to zero. The resulting estimation was equivalent to the Rasch model for multiple-choice items and the Rasch partial credit model for polytomously scored items (in grades 4 and 7 English-language arts). In keeping with previous CST equating and scaling procedures the calibration was carried out using the WINSTEPS program (Linacre, 2001). For the purposes of score equating, only the operational items were calibrated for each test.

The PARSCALE calibrations were run in two stages, following procedures used with other ETS testing programs. In the first stage, estimation imposed normal constraints on the updated prior ability distribution. The estimates resulting from this first stage were used as starting values for a second PARSCALE run, in which the subject prior distribution was updated after each EM cycle with no constraints. For both stages, the metric of the scale was controlled by the constant discrimination parameters. This approach was used to obtain unequated 2004 item parameter estimates.

¹The original intention was to scale all tests back to the 2002 forms. However, for tests that went through significant changes in length, content, or equating sampling criteria between 2002 and 2003, the 2004 equating is based on the form from 2003; the tests equated to 2003 forms are all of the ELAs, History Grade 8, Mathematics Grades 2 through 7, and Integrated Mathematics I, II, and III). The remaining equatings are based on the tests from 2002. An exception is the new test for Grade 5 Science for which there was no previous form to which to equate.

Calibrations of the 2004 data were then equated or scaled to the previously obtained reference scale estimates using the Stocking and Lord (1983) procedure. In the case of one-parameter model calibrations, this procedure is equivalent to setting the mean of the new item parameter estimates for the common items equal to the mean of the previously scaled estimates. As commonly done in this approach, the linking process was carried out iteratively by inspecting differences between the transformed new and old (reference) estimates for the linking items, and removing items for which the item difficulty estimates changed significantly. Items with large weighted root-mean-square differences between ICCs based on the old and new difficulty estimates were eliminated. The differences were calculated using the following formula:

$$\text{WRMSD} = \sqrt{\sum_{j=1}^{61} w_j [P_n(\theta_j) - P_r(\theta_j)]^2}, \quad (1)$$

where θ_j ranges from -3.0 to 3.0 by 0.1 , w_j is a weight equal to the proportion of estimated abilities from the transformed new form in interval j , $P_n(\theta_j)$ is the probability of correct response for the transformed new form item at ability level j , and $P_r(\theta_j)$ is the probability of correct response for the old (reference) form item.

Based on established procedures, any linking items for which the WRMSD was greater than 0.125 were eliminated. This criterion has proven to produce reasonable results in similar equating work done with other testing programs at ETS.

Once the new calibrations for each test were linked to the Rasch scale, defined by the reference calibrations, IRT true score equating procedures were utilized to transform the new form number-correct scores to their respective reference form scaled scores. The true score equating procedure is based on the relationship between raw scores and ability. For CSTs consisting entirely of multiple-choice items, this is the well-known relationship defined in Lord (1980; eq. 4-5):

$$\xi(\theta) = \sum_{i=1}^n P_i(\theta), \quad (2)$$

where $P_i(\theta)$ is the probability of a correct response to item i at ability level θ (defined by the Rasch model), $\xi(\theta)$ is the corresponding true score, and the summation is over the n items in the test.

For Grades 4 and 7 ELA, $\xi(\theta)$ is based on a weighted sum of multiple-choice and constructed response items, and the relationship can be defined as:

$$\xi(\theta) = w_{mc} \sum_{i=1}^{nmc} P_i(\theta) + w_{cr} \sum_{j=1}^{ncr} \sum_{x=1}^m s_x P_{xj}(\theta), \quad (3)$$

where w_{mc} and w_{cr} are equal to 1 , s_x is the score value for category x , nmc is the number of multiple-choice items in the test, ncr is the number of constructed response items in the test, m is the number of score categories in each polytomous item, and $P_{xj}(\theta)$ is the probability of a score in

category x at ability θ (defined by the Rasch partial credit model). For ELA, there are eight possible scores: 0, 2, 3, 4, 5, 6, 7, and 8. A score of 1 is not possible and a score of zero is only assigned for students who refused to write to the prompt, left their essay blank, or wrote to a prompt from an earlier administration.

For each integer score ξ_n on the new form, the true score equating procedure first solved for the corresponding ability level using equations 2 (for all tests except grades 4 and 7 ELA) or 3 (for grades 4 and 7 ELA). Next, the procedure used that ability level to find the corresponding score ξ_b on the reference form. Finally, each score ξ_b was transformed to the appropriate CST scaled score scale using the reference form CST raw-score-to-scaled-score conversion tables and linear interpolation.

Equating Samples

This section describes characteristics of the samples used to establish the 2002 reference form calibrations as well as the equating samples used to equate the CSTs in subsequent years. To establish the 2002 reference form calibrations, ETS staff drew samples from the 2002 administrations for each CST content area. In drawing these samples, it was necessary to account for the small portion of the complete testing data available at the time of equating. To simulate a case that reflects only those schools that tested early, the complete CST data was sorted according to test administration date in the student records. Only those students testing before a selected cut off date were selected. For all content areas except upper level mathematics, 10,000 test takers were randomly sampled from the available records. For the higher level mathematics tests, samples were limited to students in particular grades, as was done in past equatings as noted below. For the integrated math tests, all of the students that were available were sampled, which for each test was substantially fewer than 10,000².

Content Area	Equating Sample	Content Area	Equating Sample
General Math	Grades 8 & 9	Integrated Math II	Grade 9
Algebra I	Grade 8	Algebra II	Grade 10
Integrated Math I	Grade 8	Integrated Math III	Grade 10
Geometry	Grade 9	High School Math	Grade 11

Starting with the 2003, equating samples were selected from available student records in a data file obtained near the end of May. As anticipated, these data consisted of only 5 to 10 percent of the total STAR testing data that were eventually available when all testing was completed. It was necessary to utilize these partial student samples for equating because of the score reporting deadlines. In addition, for the integrated math tests it was necessary to sample all students with valid scores, regardless of their grade, in order to obtain sufficient sample sizes for equating. This change from the intended sampling procedures was due to unusually small sample sizes for these tests, and it was approved by the CDE. Only students with valid results on the CSTs were

² In general, the early sample means are similar but not identical to the performance of the state as a whole, and performance similarities differ by grade and test. Such variation was expected given that only students from districts that completed their STAR testing early could be included in the equating samples.

included in the equating samples. In addition, students testing out of level or under modified conditions were excluded from these samples.

Table 3.1 summarizes the numbers of students, the mean raw scores, and the standard deviation of raw scores for the reference and 2004 CST equating samples.

Table 3.1: Summary Statistics for the Reference Form and 2004 Equating Samples

Subject	Test	Ref. form admin.	Reference form Equating Samples				2004 Equating Samples			
			# of Students	# of Items/Pts	Mean	Std Dev	# of Students	# of Items/Pts	Mean	Std Dev
<i>English Language Arts</i>	2	2003	13,418	65	38.7	13.1	25,558	64	34.6	12.9
	3	2003	13,946	65	40.3	13.0	26,058	65	35.8	12.4
	4*	2003	11,768	83	46.7	15.1	3,300	83	45.6	15.5
	5	2003	14,121	75	40.7	13.4	24,923	75	40.8	14.0
	6	2003	15,387	75	43.5	13.9	20,334	75	39.3	13.5
	7*	2003	13,594	83	47.9	13.8	3,714	83	49.3	14.8
	8	2003	15,339	75	42.4	12.9	17,886	75	40.0	13.1
	9	2003	25,591	75	43.6	14.1	26,481	75	39.5	14.4
	10	2003	23,555	75	41.7	14.8	23,149	75	42.3	15.2
	11	2003	21,742	75	41.7	14.4	19,769	75	42.1	14.4
<hr/>										
<i>History</i>	8	2003	15,314	75	37.0	11.4	17,869	75	33.0	11.9
	10	2002	10,000	60	27.7	10.4	22,731	60	28.6	11.3
	11	2002	10,000	60	29.9	10.8	19,345	60	28.7	10.6
<hr/>										
<i>Mathematics</i>	2	2003	13,491	65	48.5	10.9	25,735	65	44.1	11.9
	3	2003	14,038	65	44.0	11.8	26,200	65	38.9	13.0
	4	2003	14,235	65	43.8	13.1	26,394	65	38.2	13.4
	5	2003	14,178	65	35.9	11.8	25,033	65	33.6	11.9
	6	2003	15,404	65	36.8	12.2	20,406	65	31.8	12.0
	7	2003	16,018	65	34.8	11.8	18,394	65	31.8	11.9
	General Math	2002	10,000	65	29.8	10.2	17,840	65	28.9	10.4
	Algebra I	2002	10,000	65	35.8	11.5	7,134	65	27.5	10.5
	Geometry	2002	10,000	65	43.2	10.9	4,204	65	33.4	12.9
	Algebra II	2002	10,000	65	37.5	10.8	3,701	64	33.1	11.9
	High School Math	2002	10,000	65	44.4	11.7	3,370	65	41.1	13.5
	Integrated Math I	2003	1,668	65	23.6	8.8	523	65	22.7	6.3
	Integrated Math II	2003	1,130	65	31.1	10.6	605	65	25.2	7.1
	Integrated Math III	2003	1,065	65	31.1	11.6	501	64	29.0	8.4
<hr/>										
<i>Science</i>	Grade 5 Science	2004	24,963	60	26.2	8.6	24,963	60	26.2	8.6
	Biology	2002	10,000	60	32.4	11.2	20,061	60	31.0	11.0
	Chemistry	2002	10,000	60	32.3	10.4	9,641	60	29.7	11.7
	Earth Sciences	2002	10,000	60	29.1	10.9	4,453	60	28.0	10.8
	Physics	2002	10,000	60	32.9	11.7	2,272	60	30.1	12.0

* ELA Grades 4 and 7 tests each include one eight-point essay item

Evaluation of Common Items

Table 3.2 presents, for each CST content area and grade level, the number of common items between the 2004 (new) and reference test forms, the number of items removed from the common item sets, the final correlations between the new and reference difficulty estimates, and the average WRMSD statistic (see equation 1) across the final set of common items. These results indicate that the new and old difficulty estimates were highly correlated (usually 0.94 or higher) and similar in magnitude (average WRMSD values of 0.05 and lower).

Table 3.2: Evaluation of Common Items between New and Reference Test Forms

Subject	Test	# of Common Items	# of Common Items Removed	Final Correlation	WRMSD
<i>English Language Arts</i>	2	23		0.97	0.04
	3	22		0.95	0.03
	4	24		0.95	0.04
	5	22		0.97	0.04
	6	24		0.99	0.02
	7	22	1	0.91	0.05
	8	23		0.94	0.05
	9	25		0.93	0.05
	10	22		0.98	0.03
	11	23		0.98	0.03
<i>History</i>	8	27		0.91	0.04
	10	27		0.96	0.03
	11	24		0.97	0.04
<i>Mathematics</i>	2	24		0.97	0.04
	3	22		0.93	0.06
	4	23		0.94	0.04
	5	22		0.96	0.05
	6	22		0.96	0.04
	7	25		0.97	0.03
	General Mathematics	27		0.98	0.03
	Algebra I	22		0.98	0.04
	Geometry	22		0.94	0.05
	Algebra II	25		0.94	0.05
	High School Mathematics	25		0.95	0.04
	Integrated Mathematics I	24	2	0.98	0.03
	Integrated Mathematics II	21		0.97	0.05
	Integrated Mathematics III	24	5	0.92	0.06
<i>Science</i>	Grade 5 Science	N/A	N/A	N/A	N/A
	Biology	30		0.98	0.03
	Chemistry	34		0.96	0.04
	Earth Sciences	32		0.95	0.03
	Physics	32	1	0.95	0.04

Scaling the Integrated Science CSTs

Special scaling procedures were utilized to determine the performance levels and scaled scores for the Integrated Science CSTs. Because these tests were restructured for 2003, it was not possible to equate them back to the 2002 CSTs. This procedure was also followed in 2004 due to small samples at the time of equating. Furthermore, it was determined that the performance necessary to reach each performance level category should be based on the cut scores of the four content-based CSTs in Science (i.e., Earth Science, Biology, Chemistry, and Physics)³. This process was also applied for 2004.

As a result, composite performance level cut scores for the Integrated Science CSTs were determined through the following steps:

1. First, as with the other CSTs, each 2004 content area test (e.g., Earth Science, Biology, Chemistry, and Physics), was equated to a reference form. Additional equatings were then carried out where each subset of items in each integrated test was equated to the full 2004 test. This resulted in 16 additional equatings.
2. For each equating, the equated number correct was recorded on the subset of items that corresponded to each of the four performance levels cut points on the full content test.
3. For each integrated test, these number correct equivalents were added together across the content areas to determine the total number correct scores that represented the “composite” cut scores between performance levels.

As an illustration, the number correct scores defining each of the performance level cut points on the 60-item, content-specific Science CSTs are shown below. For example, the minimum number correct score to achieve Below Basic on Biology is 19, the minimum number correct score to achieve Basic is 26, etc.

Content Cuts	Biology	Chemistry	Earth Science	Physics
Below Basic	19	20	18	19
Basic	26	26	24	25
Proficient	39	40	37	39
Advanced	49	49	48	48
Number of items	60	60	60	60

For each content-specific test, a subset of the 60 items was also included in the Integrated Science I CST. Using just these subsets of items, equated number correct scores were determined as shown below. For example, 12 Biology items were included on Integrated Science I, and on these items, the minimum number correct score to achieve Below Basic was 4.1233. The last column of the table shows the sum of the cuts (truncated to achieve an integer value). These defined the performance level cut scores for the Integrated Science I CST.

³ These integrated tests are constructed by taking intact blocks of items from the four content-based CSTs in Science.

Equated Cuts	Biology	Chemistry	Earth Science	Physics	Int 1 Cut
Below Basic	4.1233	5.6789	6.2034	3.6880	19
Basic	5.6352	7.2911	8.0763	4.9956	25
Proficient	8.3064	10.9565	11.9101	8.3007	39
Advanced	10.1831	13.2572	14.9318	10.6225	48
Number of items	12	16	18	14	

For each Integrated Science CST, the performance level cuts were translated to scaled scores. For Basic and Proficient, scaled scores of 300 and 350 defined these cuts. For Below Basic and Advanced, arbitrary scaled scores at levels similar to those for the other Science CSTs were assigned based on scaling functions.

Equating the Braille Versions of the CSTs

For all CSTs, all of the questions in the regular versions of the tests were included in the Braille versions of the tests. For these tests, scaled score and performance levels on the Braille versions were based on the regular operational raw-to-scaled score conversions.

CST Equating Conversions

Complete raw-to-scaled score conversion tables for the 2004 CSTs are presented in Tables 3.B.1 to 3.B.14. The raw scores and corresponding unrounded converted scaled scores are listed. For all of the 2004 CSTs, scaled scores were truncated so that the minimum reported scaled score was 150 and the maximum reported scaled score was 600. The scaled scores defining the various performance level cut points are presented in Table 3.3.

Table 3.3: Scaled Scores Defining the Various Performance Level Cut Points

Subject	Test	Far Below Basic	Below Basic	Basic	Proficient	Advanced
<i>English Language Arts</i>	2	150 - 261	262 - 299	300 - 349	350 - 401	402 - 600
	3	150 - 258	259 - 299	300 - 349	350 - 401	402 - 600
	4	150 - 268	269 - 299	300 - 349	350 - 392	393 - 600
	5	150 - 270	271 - 299	300 - 349	350 - 394	395 - 600
	6	150 - 267	268 - 299	300 - 349	350 - 393	394 - 600
	7	150 - 262	263 - 299	300 - 349	350 - 400	401 - 600
	8	150 - 265	266 - 299	300 - 349	350 - 394	395 - 600
	9	150 - 264	265 - 299	300 - 349	350 - 396	397 - 600
	10	150 - 262	263 - 299	300 - 349	350 - 391	392 - 600
	11	150 - 258	259 - 299	300 - 349	350 - 395	396 - 600
<i>History</i>						
	8	150 - 270	271 - 299	300 - 349	350 - 395	396 - 600
	10	150 - 274	275 - 299	300 - 349	350 - 399	400 - 600
<i>Mathematics</i>						
	11	150 - 269	270 - 299	300 - 349	350 - 400	401 - 600
	2	150 - 235	236 - 299	300 - 349	350 - 413	414 - 600
	3	150 - 235	236 - 299	300 - 349	350 - 413	414 - 600
	4	150 - 244	245 - 299	300 - 349	350 - 400	401 - 600
	5	150 - 247	248 - 299	300 - 349	350 - 429	430 - 600
	6	150 - 252	253 - 299	300 - 349	350 - 414	415 - 600
	7	150 - 256	257 - 299	300 - 349	350 - 413	414 - 600
	General Mathematics	150 - 256	257 - 299	300 - 349	350 - 413	414 - 600
	Algebra I	150 - 252	253 - 299	300 - 349	350 - 427	428 - 600
	Geometry	150 - 246	247 - 299	300 - 349	350 - 417	418 - 600
	Algebra II	150 - 256	257 - 299	300 - 349	350 - 415	416 - 600
	High School Mathematics	150 - 234	235 - 299	300 - 349	350 - 419	420 - 600
	Integrated Math I	150 - 248	249 - 299	300 - 349	350 - 424	425 - 600
	Integrated Math II	150 - 257	258 - 299	300 - 349	350 - 417	418 - 600
	Integrated Math III	150 - 251	252 - 299	300 - 349	350 - 427	428 - 600
<i>Science</i>						
	Grade 5 Science	150 - 267	268 - 299	300 - 349	350 - 409	410 - 600
	Biology	150 - 275	276 - 299	300 - 349	350 - 393	394 - 600
	Chemistry	150 - 275	276 - 299	300 - 349	350 - 393	394 - 600
	Earth Sciences	150 - 276	277 - 299	300 - 349	350 - 392	393 - 600
	Physics	150 - 275	276 - 299	300 - 349	350 - 392	393 - 600
	Integrated Science I	150 - 276	277 - 299	300 - 349	350 - 389	390 - 600
	Integrated Science II	150 - 277	278 - 299	300 - 349	350 - 390	391 - 600
	Integrated Science III	150 - 275	276 - 299	300 - 349	350 - 390	391 - 600
	Integrated Science IV	150 - 275	276 - 299	300 - 349	350 - 396	397 - 600

References

- Linacre, J.M. (2000). *WINSTEPS: Rasch measurement* (Version 3.23). Chicago, IL: MESA Press.
- Muraki, E. (1992). A generalized partial credit model: Application of an EM algorithm. *Applied Psychological Measurement, 16*, 159-176.
- Muraki, E. & Bock, R. D. (1995). *PARSCALE: Parameter scaling of rating data* (Version 2.2). Chicago, IL: Scientific Software, Inc.
- Stocking, M.L., & Lord, F.M. (1983). Developing a common metric in item response theory. *Applied Psychological Measurement, 7*, 201-210.
- Way, W. D., Kubiak, A. T., Henderson, D., & Julian, M. W. (2002, April). *Accuracy and stability of calibrations for mixed-item-format tests using the one-parameter and generalized partial credit models*. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.

Appendix 3.A

Table 3.A.1: 2004 Reference Form Conversions for English-language Arts Grades 2 & 3 from 2003 Administration

Grade 2						Grade 3					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	8.0005	41	0.4999	337.3912	0	-39.0000	-12.3995	41	0.2415	322.6778
1	-4.5437	81.3342	42	0.5742	341.2568	1	-4.7271	56.2900	42	0.3149	326.9603
2	-3.8224	119.4626	43	0.6500	345.0871	2	-4.0107	95.3059	43	0.3896	330.7308
3	-3.3889	142.0353	44	0.7272	348.8823	3	-3.5816	118.5114	44	0.4660	334.8170
4	-3.0733	157.6228	45	0.8063	352.6621	4	-3.2701	135.3614	45	0.5442	339.2189
5	-2.8223	170.2852	46	0.8875	356.9172	5	-3.0229	148.5997	46	0.6244	343.1104
6	-2.6121	181.0908	47	0.9710	361.1299	6	-2.8163	159.6938	47	0.7070	347.5695
7	-2.4302	190.2749	48	1.0573	365.3994	7	-2.6377	169.0488	48	0.7923	352.4190
8	-2.2689	198.2163	49	1.1466	370.0406	8	-2.4794	177.4434	49	0.8807	357.0888
9	-2.1233	205.5151	50	1.2395	374.6302	9	-2.3367	185.1575	50	0.9727	362.1066
10	-1.9901	212.1791	51	1.3366	379.3011	10	-2.2061	192.1923	51	1.0688	367.1179
11	-1.8668	218.4412	52	1.4386	384.4150	11	-2.0854	198.5770	52	1.1698	372.1889
12	-1.7518	224.3567	53	1.5462	389.9542	12	-1.9726	204.5391	53	1.2764	378.3041
13	-1.6435	229.6364	54	1.6605	395.7913	13	-1.8665	210.2147	54	1.3898	384.1307
14	-1.5409	234.8966	55	1.7829	401.7285	14	-1.7660	215.5993	55	1.5112	390.6549
15	-1.4433	239.6365	56	1.9151	408.4213	15	-1.6703	220.9943	56	1.6425	397.4667
16	-1.3498	244.6856	57	2.0597	415.5152	16	-1.5787	225.8957	57	1.7860	405.2308
17	-1.2600	248.9134	58	2.2198	423.8009	17	-1.4906	230.6646	58	1.9451	413.8326
18	-1.1734	253.2591	59	2.4004	432.8449	18	-1.4056	234.8869	59	2.1247	423.2610
19	-1.0895	257.6552	60	2.6091	443.3190	19	-1.3233	239.3123	60	2.3324	434.4162
20	-1.0080	261.4986	61	2.8584	456.1270	20	-1.2434	243.6194	61	2.5807	447.9483
21	-0.9286	265.7100	62	3.1725	472.3219	21	-1.1654	247.6088	62	2.8935	464.8016
22	-0.8511	269.6276	63	3.6040	495.4826	22	-1.0893	251.8679	63	3.3240	487.8330
23	-0.7752	273.4121	64	4.3231	529.9458	23	-1.0147	255.6312	64	4.0419	526.4213
24	-0.7006	277.1769	65	20.0000	578.9995	24	-0.9414	259.8281	65	20.0000	594.9795
25	-0.6273	280.9192				25	-0.8693	263.5027			
26	-0.5550	284.6168				26	-0.7982	267.1850			
27	-0.4836	287.8392				27	-0.7279	271.1823			
28	-0.4129	291.5157				28	-0.6584	275.1020			
29	-0.3428	295.1692				29	-0.5893	278.8064			
30	-0.2731	298.7992				30	-0.5207	281.9878			
31	-0.2037	301.9053				31	-0.4524	285.7060			
32	-0.1346	305.4870				32	-0.3843	289.4308			
33	-0.0655	309.0439				33	-0.3162	293.1619			
34	0.0037	312.5755				34	-0.2481	296.8989			
35	0.0730	316.0814				35	-0.1797	300.6415			
36	0.1426	319.5610				36	-0.1111	303.8592			
37	0.2127	323.0140				37	-0.0420	307.6118			
38	0.2833	326.4399				38	0.0277	311.3687			
39	0.3546	330.0612				39	0.0980	315.1296			
40	0.4267	333.7083				40	0.1692	318.8939			

Table 3.A.2: 2004 Reference Form Conversions for English-language Arts Grade 4 (with and without essay) from 2003 Administration

Grade 4						Grade 4 (without essay)					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	0.0007	41	0.0746	323.4106	0	-39.0000	0.0007	41	0.2836	333.3135
1	-4.6964	83.2185	42	0.1312	326.0086	1	-4.4487	93.4191	42	0.3436	336.3800
2	-3.9712	119.6059	43	0.1880	328.8786	2	-3.7361	130.8680	43	0.4041	339.4322
3	-3.5350	141.4494	44	0.2449	331.6791	3	-3.3107	152.7918	44	0.4650	342.4693
4	-3.2178	157.3121	45	0.3021	334.7504	4	-3.0030	168.3471	45	0.5264	345.4909
5	-2.9661	170.1059	46	0.3597	337.7492	5	-2.7596	180.6187	46	0.5884	348.4962
6	-2.7563	180.7910	47	0.4177	340.3618	6	-2.5568	190.8911	47	0.6512	351.9818
7	-2.5753	189.9927	48	0.4761	343.4006	7	-2.3820	199.5233	48	0.7148	354.9559
8	-2.4157	197.9425	49	0.5351	346.4274	8	-2.2276	207.1433	49	0.7793	358.0933
9	-2.2724	205.0904	50	0.5947	349.4414	9	-2.0887	214.3100	50	0.8450	361.6161
10	-2.1419	211.5501	51	0.6550	352.4419	10	-1.9621	220.4827	51	0.9118	364.7637
11	-2.0219	217.6043	52	0.7161	355.4306	11	-1.8452	226.3493	52	0.9800	368.0935
12	-1.9106	223.3239	53	0.7780	358.4036	12	-1.7365	231.9148	53	1.0497	372.0468
13	-1.8064	228.3500	54	0.8410	361.7339	13	-1.6344	237.1297	54	1.1211	375.4758
14	-1.7084	233.6698	55	0.9049	364.8040	14	-1.5381	241.7385	55	1.1945	379.0260
15	-1.6156	238.1988	56	0.9701	368.2302	15	-1.4466	246.2999	56	1.2700	382.9663
16	-1.5274	242.8167	57	1.0365	371.2672	16	-1.3592	250.8597	57	1.3481	386.8791
17	-1.4432	246.7074	58	1.1044	374.7369	17	-1.2756	254.9173	58	1.4289	390.7592
18	-1.3624	250.9378	59	1.1739	378.1841	18	-1.1950	259.2625	59	1.5129	394.9802
19	-1.2846	254.6759	60	1.2451	381.9587	19	-1.1173	263.1634	60	1.6005	399.3416
20	-1.2096	258.4207	61	1.3183	385.5075	20	-1.0420	266.5614	61	1.6923	404.1236
21	-1.1370	262.1714	62	1.3937	389.3608	21	-0.9689	270.4557	62	1.7889	408.9451
22	-1.0665	265.8558	63	1.4715	393.2639	22	-0.8977	274.0381	63	1.8912	414.2477
23	-0.9979	269.1870	64	1.5520	397.2233	23	-0.8282	277.2758	64	2.0002	419.5576
24	-0.9310	272.6257	65	1.6356	401.6035	24	-0.7603	281.0090	65	2.1173	425.3628
25	-0.8656	275.7649	66	1.7226	405.9398	25	-0.6936	284.2373	66	2.2442	431.7311
26	-0.8016	279.4062	67	1.8135	410.4458	26	-0.6282	287.4602	67	2.3833	438.9837
27	-0.7388	282.5491	68	1.9090	415.2169	27	-0.5639	290.6772	68	2.5379	446.7810
28	-0.6770	285.6932	69	2.0098	420.2007	28	-0.5004	293.8885	69	2.7129	455.5028
29	-0.6162	288.3703	70	2.1167	425.6598	29	-0.4378	297.0920	70	2.9159	465.4240
30	-0.5561	291.4831	71	2.2311	431.2810	30	-0.3759	300.2884	71	3.1594	477.8303
31	-0.4969	294.6272	72	2.3543	437.4354	31	-0.3146	303.3816	72	3.4672	493.7064
32	-0.4382	297.4163	73	2.4885	444.5205	32	-0.2539	306.1572	73	3.8926	515.4880
33	-0.3801	300.4120	74	2.6365	452.2231	33	-0.1935	309.3285	74	4.6050	550.7061
34	-0.3224	303.4412	75	2.8022	460.6471	34	-0.1335	312.4904	75	20.0000	607.4995
35	-0.2651	306.1881	76	2.9915	470.8717	35	-0.0738	315.5139			
36	-0.2081	308.9569	77	3.2124	483.3768	36	-0.0142	318.2839			
37	-0.1514	311.9501	78	3.4769	499.0933	37	0.0453	321.4151			
38	-0.0948	314.5742	79	3.7999	519.8148	38	0.1047	324.5262			
39	-0.0383	317.6928	80	4.1948	546.3262	39	0.1642	327.1392			
40	0.0182	320.4441	81	4.6760	577.5509	40	0.2238	330.2330			
			82	5.3405	610.4027						
			83	20.0000	643.4995						

Table 3.A.3: 2004 Reference Form Conversions for English-language Arts Grades 5 and 6 from 2003 Administration

Grade 5						Grade 6					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	25.0005	41	0.2832	334.2313	0	-39.0000	0.0005	41	0.1678	325.3101
1	-4.5232	91.2690	42	0.3451	337.3238	1	-4.6742	75.6708	42	0.2309	328.4195
2	-3.8082	128.4570	43	0.4073	340.4047	2	-3.9591	114.5524	43	0.2944	332.0112
3	-3.3807	150.2886	44	0.4699	343.4733	3	-3.5313	136.9498	44	0.3583	335.0743
4	-3.0707	166.1057	45	0.5331	346.5349	4	-3.2210	152.5120	45	0.4228	338.4260
5	-2.8251	178.3099	46	0.5970	350.0714	5	-2.9750	165.4989	46	0.4879	341.6426
6	-2.6202	188.7877	47	0.6616	353.0996	6	-2.7696	175.7473	47	0.5538	345.1298
7	-2.4433	197.7182	48	0.7270	356.4354	7	-2.5922	184.9952	48	0.6206	348.1830
8	-2.2868	205.4334	49	0.7934	359.6128	8	-2.4352	192.8599	49	0.6884	351.7187
9	-2.1460	212.7199	50	0.8609	363.1147	9	-2.2937	199.9416	50	0.7572	355.2222
10	-2.0173	219.0894	51	0.9297	366.6743	10	-2.1643	206.4985	51	0.8273	358.9834
11	-1.8985	225.0217	52	0.9998	370.2133	11	-2.0448	212.6492	52	0.8988	362.6443
12	-1.7878	230.6853	53	1.0714	373.7310	12	-1.9334	218.2760	53	0.9718	366.4615
13	-1.6839	235.8016	54	1.1448	377.2265	13	-1.8287	223.8197	54	1.0466	369.9345
14	-1.5856	240.5580	55	1.2201	381.1485	14	-1.7296	228.7185	55	1.1234	373.7819
15	-1.4923	245.5437	56	1.2977	385.1707	15	-1.6354	233.6049	56	1.2024	378.1453
16	-1.4031	249.8852	57	1.3777	389.1679	16	-1.5454	238.3559	57	1.2838	382.0291
17	-1.3176	254.0245	58	1.4606	393.1333	17	-1.4590	242.5219	58	1.3682	386.4399
18	-1.2352	258.0871	59	1.5466	397.2921	18	-1.3757	246.6763	59	1.4558	391.1037
19	-1.1557	262.0136	60	1.6364	401.7528	19	-1.2953	250.8186	60	1.5470	395.4477
20	-1.0786	266.0780	61	1.7303	406.5107	20	-1.2173	254.9491	61	1.6425	400.2667
21	-1.0037	269.6471	62	1.8291	411.4436	21	-1.1414	258.5557	62	1.7428	405.5391
22	-0.9308	273.5000	63	1.9336	416.7574	22	-1.0675	262.4812	63	1.8489	411.0967
23	-0.8595	276.8517	64	2.0448	422.1369	23	-0.9953	266.2396	64	1.9618	416.7104
24	-0.7898	280.4179	65	2.1642	428.4595	24	-0.9245	269.7963	65	2.0828	422.8306
25	-0.7215	284.0490	66	2.2934	434.8118	25	-0.8552	273.1808	66	2.2137	429.6927
26	-0.6543	287.3279	67	2.4348	441.6866	26	-0.7870	276.8933	67	2.3569	436.9432
27	-0.5883	290.5286	68	2.5917	449.5509	27	-0.7198	280.4216	68	2.5157	444.9445
28	-0.5231	293.7263	69	2.7691	458.4379	28	-0.6536	283.7675	69	2.6949	454.1527
29	-0.4588	296.9191	70	2.9745	468.8263	29	-0.5882	287.0989	70	2.9020	464.8590
30	-0.3952	300.1076	71	3.2205	481.2934	30	-0.5235	290.4160	71	3.1501	477.6250
31	-0.3322	303.2911	72	3.5308	497.2493	31	-0.4594	293.6168	72	3.4625	494.2802
32	-0.2697	306.4690	73	3.9587	519.0806	32	-0.3958	296.4957	73	3.8921	518.0198
33	-0.2076	309.6409	74	4.6737	554.4535	33	-0.3326	299.7671	74	4.6097	552.7694
34	-0.1459	312.8061	75	20.0000	611.4995	34	-0.2697	303.0224	75	20.0000	602.2694
35	-0.0845	315.9641				35	-0.2071	306.2608			
36	-0.0232	319.1148				36	-0.1447	309.4820			
37	0.0380	321.7571				37	-0.0823	312.6854			
38	0.0991	324.8898				38	-0.0200	315.8703			
39	0.1604	328.0144				39	0.0425	319.0367			
40	0.2217	331.1278				40	0.1050	322.1834			

Table 3.A.4: 2004 Reference Form Conversions for English-language Arts Grade 7 (with and without essay) from 2003 Administration

Grade 7						Grade 7 (without essay)					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	-40.1194	41	0.2018	313.1986	0	-39.0000	0.0002	41	0.3674	319.9605
1	-4.7493	32.5226	42	0.2592	316.5220	1	-4.4478	46.1642	42	0.4285	323.7113
2	-4.0113	74.6339	43	0.3166	319.8252	2	-3.7313	89.7624	43	0.4899	327.1238
3	-3.5637	100.2591	44	0.3741	323.1092	3	-3.3022	113.6940	44	0.5516	330.4641
4	-3.2361	118.7700	45	0.4318	326.3748	4	-2.9908	131.2725	45	0.6139	334.2013
5	-2.9752	134.1180	46	0.4899	329.6229	5	-2.7440	145.0267	46	0.6769	337.6727
6	-2.7568	146.1606	47	0.5482	332.8543	6	-2.5378	156.5913	47	0.7405	341.1910
7	-2.5681	156.5223	48	0.6070	336.0702	7	-2.3598	166.7540	48	0.8049	344.7745
8	-2.4012	166.2387	49	0.6664	339.2711	8	-2.2023	175.5091	49	0.8703	348.5644
9	-2.2511	174.5730	50	0.7263	342.9257	9	-2.0605	183.5931	50	0.9367	352.3292
10	-2.1144	182.1105	51	0.7870	346.1918	10	-1.9309	190.6755	51	1.0043	356.0648
11	-1.9884	189.4959	52	0.8485	349.9129	11	-1.8113	197.7199	52	1.0733	359.7724
12	-1.8714	195.9309	53	0.9109	353.1861	12	-1.6999	203.8892	53	1.1438	363.6070
13	-1.7618	201.8854	54	0.9744	356.9536	13	-1.5953	209.6633	54	1.2161	367.8657
14	-1.6586	207.8503	55	1.0391	360.7068	14	-1.4965	215.2639	55	1.2902	372.0899
15	-1.5609	213.2579	56	1.1051	364.4473	15	-1.4026	220.6301	56	1.3666	376.2832
16	-1.4679	218.6544	57	1.1726	368.1754	16	-1.3130	225.5567	57	1.4454	380.7602
17	-1.3791	223.5026	58	1.2418	371.8908	17	-1.2270	230.6705	58	1.5270	385.4711
18	-1.2939	228.4612	59	1.3128	376.0944	18	-1.1444	235.2020	59	1.6118	390.1417
19	-1.2119	233.0679	60	1.3859	379.8459	19	-1.0646	239.7106	60	1.7003	395.1628
20	-1.1328	237.6595	61	1.4612	384.1305	20	-0.9873	244.1310	61	1.7929	400.3246
21	-1.0562	241.7475	62	1.5392	388.4043	21	-0.9122	248.1015	62	1.8904	405.8524
22	-0.9819	246.1019	63	1.6201	392.6604	22	-0.8392	252.1130	63	1.9936	411.4817
23	-0.9097	250.1971	64	1.7042	397.0885	23	-0.7679	256.3564	64	2.1036	417.4699
24	-0.8393	254.1928	65	1.7919	401.6739	24	-0.6982	260.2414	65	2.2217	424.3579
25	-0.7706	257.9264	66	1.8838	406.4130	25	-0.6300	264.2275	66	2.3497	431.4630
26	-0.7033	261.6371	67	1.9803	411.4653	26	-0.5629	267.8552	67	2.4898	439.2412
27	-0.6375	265.3241	68	2.0822	416.5382	27	-0.4970	271.4643	68	2.6456	447.9642
28	-0.5728	268.9866	69	2.1901	422.1892	28	-0.4321	275.0552	69	2.8218	457.9107
29	-0.5093	272.6240	70	2.3052	428.0146	29	-0.3680	278.6263	70	3.0261	469.5006
30	-0.4467	276.2361	71	2.4282	434.1794	30	-0.3047	282.1786	71	3.2710	483.5723
31	-0.3850	279.8230	72	2.5606	441.2560	31	-0.2421	285.7119	72	3.5803	501.4720
32	-0.3241	283.3835	73	2.7040	448.5103	32	-0.1800	289.2261	73	4.0072	526.4851
33	-0.2640	286.5828	74	2.8602	456.7795	33	-0.1184	292.7208	74	4.7212	565.3276
34	-0.2044	289.8681	75	3.0319	466.3015	34	-0.0572	296.1960	75	20.0000	625.1594
35	-0.1454	293.3527	76	3.2227	477.1275	35	0.0038	299.6516			
36	-0.0868	296.8125	77	3.4378	489.4443	36	0.0645	303.0872			
37	-0.0286	299.9343	78	3.6856	503.5095	37	0.1250	306.5027			
38	0.0293	303.0996	79	3.9797	519.7274	38	0.1855	309.8980			
39	0.0869	306.4882	80	4.3439	543.6572	39	0.2461	313.2729			
40	0.1444	309.8543	81	4.8236	568.7950	40	0.3067	316.6271			
			82	5.5627	600.2677						
			83	20.0000	628.5194						

Table 3.A.5: 2004 Reference Form Conversions for English-language Arts Grades 8 and 9 from 2003 Administration

Grade 8						Grade 9					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	0.0003	41	0.1052	322.7053	0	-39.0000	0.0003	41	0.1809	328.2066
1	-4.6563	52.6274	42	0.1662	326.5359	1	-4.5589	56.0380	42	0.2410	331.5626
2	-3.9434	95.2574	43	0.2275	329.8427	2	-3.8447	99.8361	43	0.3015	334.9034
3	-3.5178	119.6732	44	0.2892	333.1348	3	-3.4181	123.7854	44	0.3624	338.2290
4	-3.2096	137.0117	45	0.3515	336.8621	4	-3.1091	141.9399	45	0.4240	341.8070
5	-2.9658	150.7900	46	0.4143	340.2334	5	-2.8647	155.6772	46	0.4862	345.4038
6	-2.7625	161.9244	47	0.4779	343.5512	6	-2.6610	167.0185	47	0.5492	348.6825
7	-2.5872	171.9237	48	0.5424	347.4271	7	-2.4853	177.3053	48	0.6132	352.4721
8	-2.4322	180.5713	49	0.6077	351.0449	8	-2.3302	185.7875	49	0.6781	356.3339
9	-2.2928	188.3631	50	0.6742	354.5638	9	-2.1908	193.7503	50	0.7441	359.6757
10	-2.1655	195.6629	51	0.7418	358.3818	10	-2.0636	200.8694	51	0.8114	363.5326
11	-2.0480	201.9565	52	0.8108	362.6497	11	-1.9463	207.9390	52	0.8802	367.3690
12	-1.9386	208.3946	53	0.8813	366.5173	12	-1.8372	213.7403	53	0.9506	371.5036
13	-1.8359	213.8690	54	0.9535	370.3197	13	-1.7349	219.6546	54	1.0227	375.5485
14	-1.7388	219.6287	55	1.0276	374.6780	14	-1.6383	225.0460	55	1.0969	379.7605
15	-1.6466	224.8054	56	1.1039	379.0112	15	-1.5466	230.4042	56	1.1734	384.1343
16	-1.5585	229.4856	57	1.1827	383.3189	16	-1.4592	235.4274	57	1.2524	388.4797
17	-1.4741	234.4449	58	1.2642	387.8738	17	-1.3754	239.9659	58	1.3344	393.3930
18	-1.3928	238.8260	59	1.3489	392.7407	18	-1.2948	244.4786	59	1.4196	398.2952
19	-1.3143	243.1892	60	1.4372	397.5752	19	-1.2171	248.9661	60	1.5086	403.2670
20	-1.2382	247.5349	61	1.5296	402.7866	20	-1.1418	253.4293	61	1.6019	408.7027
21	-1.1643	251.6730	62	1.6269	408.1565	21	-1.0688	257.2985	62	1.7002	414.0963
22	-1.0923	255.6150	63	1.7299	413.9682	22	-0.9977	261.4955	63	1.8043	419.8295
23	-1.0220	259.4049	64	1.8395	420.3622	23	-0.9283	265.1567	64	1.9153	426.3116
24	-0.9532	263.5303	65	1.9572	426.7952	24	-0.8605	269.3395	65	2.0345	432.9588
25	-0.8857	267.3306	66	2.0847	433.7391	25	-0.7940	272.9945	66	2.1639	440.3705
26	-0.8195	271.1805	67	2.2243	441.8082	26	-0.7288	276.6018	67	2.3055	448.6226
27	-0.7543	274.7056	68	2.3795	450.4455	27	-0.6646	280.1918	68	2.4629	457.5832
28	-0.6900	278.2178	69	2.5550	460.2084	28	-0.6013	283.7655	69	2.6409	467.7671
29	-0.6265	281.7160	70	2.7584	471.6451	29	-0.5389	287.3217	70	2.8470	479.6418
30	-0.5638	285.2012	71	3.0024	485.3634	30	-0.4772	290.8617	71	3.0942	493.8275
31	-0.5016	288.6733	72	3.3107	502.9910	31	-0.4161	294.3856	72	3.4059	511.7458
32	-0.4400	292.1321	73	3.7363	526.9553	32	-0.3555	297.8938	73	3.8352	537.1057
33	-0.3788	295.5777	74	4.4494	566.7023	33	-0.2954	301.2830	74	4.5524	577.0832
34	-0.3179	299.0100	75	20.0000	633.1994	34	-0.2355	304.2932	75	20.0000	639.4494
35	-0.2573	302.4289				35	-0.1759	307.7548			
36	-0.1969	305.8343				36	-0.1165	311.2011			
37	-0.1365	309.2261				37	-0.0572	314.6312			
38	-0.0762	312.6042				38	0.0021	318.0484			
39	-0.0159	315.9681				39	0.0615	321.4495			
40	0.0446	319.3185				40	0.1211	324.8356			

Table 3.A.6: 2004 Reference Form Conversions for English-language Arts Grades 10 and 11 from 2003 Administration

Grade 10						Grade 11					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	0.4005	41	0.1554	324.6491	0	-39.0000	0.0001	41	0.1164	319.4672
1	-4.5657	76.1174	42	0.2150	327.7203	1	-4.6698	28.0624	42	0.1779	323.0197
2	-3.8529	115.5093	43	0.2750	330.7753	2	-3.9560	73.5067	43	0.2397	326.5600
3	-3.4275	138.2835	44	0.3354	333.9370	3	-3.5295	99.8044	44	0.3020	330.3200
4	-3.1197	154.1481	45	0.3963	337.3569	4	-3.2205	118.2430	45	0.3648	334.2070
5	-2.8762	166.8426	46	0.4579	340.3632	5	-2.9758	133.0252	46	0.4283	338.1403
6	-2.6733	177.5192	47	0.5202	343.7196	6	-2.7718	145.9368	47	0.4924	341.8049
7	-2.4985	186.7733	48	0.5834	346.8460	7	-2.5956	156.0914	48	0.5574	345.8868
8	-2.3441	194.6576	49	0.6476	350.3174	8	-2.4399	165.6346	49	0.6234	349.4612
9	-2.2052	201.8554	50	0.7128	353.7850	9	-2.2997	173.9430	50	0.6905	353.6078
10	-2.0786	208.4919	51	0.7793	356.8343	10	-2.1717	181.6574	51	0.7587	357.7402
11	-1.9618	214.6653	52	0.8472	360.5093	11	-2.0536	188.7438	52	0.8283	361.8583
12	-1.8532	220.4009	53	0.9166	364.3095	12	-1.9434	195.8070	53	0.8995	366.4060
13	-1.7513	225.4795	54	0.9878	367.7559	13	-1.8400	201.5136	54	0.9724	370.6554
14	-1.6551	230.4115	55	1.0609	371.5313	14	-1.7423	207.4465	55	1.0472	375.3304
15	-1.5637	235.3216	56	1.1363	375.5022	15	-1.6494	213.3655	56	1.1242	379.4670
16	-1.4766	240.1222	57	1.2141	379.4471	16	-1.5608	218.3093	57	1.2037	384.3321
17	-1.3932	244.2925	58	1.2948	383.8490	17	-1.4757	223.7145	58	1.2860	389.5030
18	-1.3129	248.4434	59	1.3787	388.2989	18	-1.3938	228.7188	59	1.3715	394.4759
19	-1.2354	252.5748	60	1.4662	392.7480	19	-1.3147	233.3219	60	1.4606	399.8238
20	-1.1604	256.4392	61	1.5580	397.6848	20	-1.2380	237.9101	61	1.5539	405.5637
21	-1.0877	260.2593	62	1.6547	402.5858	21	-1.1635	242.4835	62	1.6521	411.5450
22	-1.0168	263.7634	63	1.7571	407.6572	22	-1.0910	247.0418	63	1.7559	417.5101
23	-0.9477	267.3453	64	1.8663	413.5572	23	-1.0201	251.0089	64	1.8665	424.0475
24	-0.8801	271.0225	65	1.9836	419.5417	24	-0.9508	255.3859	65	1.9852	431.3277
25	-0.8139	274.3676	66	2.1108	426.1586	25	-0.8828	259.1475	66	2.1137	439.2306
26	-0.7489	277.6963	67	2.2502	433.6308	26	-0.8160	263.3181	67	2.2544	447.4199
27	-0.6850	281.0088	68	2.4051	441.7004	27	-0.7502	267.2367	68	2.4107	457.0202
28	-0.6220	284.3057	69	2.5806	450.8548	28	-0.6854	271.0665	69	2.5873	467.7753
29	-0.5599	287.5853	70	2.7839	461.5504	29	-0.6215	275.2767	70	2.7919	479.8586
30	-0.4984	290.8490	71	3.0281	474.3378	30	-0.5582	278.9766	71	3.0372	494.8197
31	-0.4376	294.0965	72	3.3366	490.4284	31	-0.4955	282.6641	72	3.3468	513.7877
32	-0.3774	296.9104	73	3.7624	513.1125	32	-0.4334	286.3394	73	3.7737	539.9668
33	-0.3175	300.0233	74	4.4759	549.7051	33	-0.3717	290.0024	74	4.4883	583.5578
34	-0.2580	303.2226	75	20.0000	608.7994	34	-0.3103	293.6532	75	20.0000	661.7843
35	-0.1988	306.4059				35	-0.2492	297.2916			
36	-0.1397	309.5731				36	-0.1882	300.9177			
37	-0.0808	312.2435				37	-0.1274	304.5315			
38	-0.0219	315.3393				38	-0.0666	308.1331			
39	0.0370	318.4578				39	-0.0057	311.7223			
40	0.0961	321.5619				40	0.0553	315.7091			

Table 3.A.7: 2004 Reference Form Conversions for History-Social Science Grade 8 from 2003 Administration

Grade 8					
Raw Score	Theta	Scaled Score	Raw Score	Theta	Scaled Score
0	-39.0000	0.0003	41	0.3835	338.4750
1	-4.3076	46.4047	42	0.4418	342.5352
2	-3.5940	85.6379	43	0.5004	346.2606
3	-3.1679	114.3295	44	0.5595	349.8254
4	-2.8597	134.2037	45	0.6191	353.4968
5	-2.6160	149.9413	46	0.6793	357.5494
6	-2.4132	162.9511	47	0.7403	361.0930
7	-2.2384	173.6291	48	0.8021	364.9898
8	-2.0843	183.3476	49	0.8648	369.0065
9	-1.9458	192.2493	50	0.9286	373.0137
10	-1.8196	200.3279	51	0.9936	377.0062
11	-1.7034	207.6236	52	1.0600	380.9855
12	-1.5953	214.4455	53	1.1279	385.2975
13	-1.4940	220.8079	54	1.1975	389.7426
14	-1.3985	226.7536	55	1.2690	394.2428
15	-1.3079	232.5368	56	1.3428	399.1478
16	-1.2216	238.1701	57	1.4191	404.0316
17	-1.1390	243.3828	58	1.4981	408.8957
18	-1.0596	248.1175	59	1.5803	413.8717
19	-0.9830	252.8524	60	1.6661	419.1773
20	-0.9090	257.5867	61	1.7562	424.9239
21	-0.8371	262.0577	62	1.8511	430.9724
22	-0.7672	266.2637	63	1.9517	437.3152
23	-0.6991	270.4678	64	2.0590	443.9453
24	-0.6326	274.6697	65	2.1745	451.4872
25	-0.5674	278.8690	66	2.2997	459.2984
26	-0.5034	283.0652	67	2.4372	467.8162
27	-0.4406	286.9956	68	2.5902	477.5536
28	-0.3786	290.8173	69	2.7636	488.5622
29	-0.3176	294.9526	70	2.9650	501.4647
30	-0.2573	298.6099	71	3.2071	516.7514
31	-0.1976	302.2628	72	3.5134	536.2218
32	-0.1384	305.9111	73	3.9373	565.9154
33	-0.0797	309.5542	74	4.6483	607.1356
34	-0.0214	313.1930	75	20.0000	661.2695
35	0.0366	316.8238			
36	0.0945	320.4496			
37	0.1522	324.0689			
38	0.2099	327.6815			
39	0.2676	331.2869			
40	0.3255	334.8849			

Table 3.A.8: 2004 Reference Form Conversions for History-Social Science Grades 10 and 11 from 2002 Administration

Grade 10						Grade 11					
Raw Score	Theta	Scaled Score									
0	-5.55	0.00	41	0.65	373.60	0	-5.55	0.00	41	0.73	373.72
1	-4.33	54.88	42	0.73	378.72	1	-4.33	49.88	42	0.81	378.84
2	-3.62	100.32	43	0.81	383.84	2	-3.61	95.96	43	0.90	384.60
3	-3.19	127.84	44	0.90	389.60	3	-3.17	124.12	44	0.98	389.72
4	-2.88	147.68	45	0.99	395.36	4	-2.86	143.96	45	1.07	395.48
5	-2.64	163.04	46	1.08	401.12	5	-2.61	159.96	46	1.17	401.88
6	-2.43	176.48	47	1.18	407.52	6	-2.40	173.40	47	1.27	408.28
7	-2.25	188.00	48	1.29	414.56	7	-2.22	184.92	48	1.37	414.68
8	-2.10	197.60	49	1.40	421.60	8	-2.06	195.16	49	1.48	421.72
9	-1.96	206.56	50	1.51	428.64	9	-1.92	204.12	50	1.60	429.40
10	-1.83	214.88	51	1.64	436.96	10	-1.78	213.08	51	1.73	437.72
11	-1.71	222.56	52	1.78	445.92	11	-1.66	220.76	52	1.87	446.68
12	-1.60	229.60	53	1.94	456.16	12	-1.55	227.80	53	2.03	456.92
13	-1.49	236.64	54	2.11	467.04	13	-1.44	234.84	54	2.20	467.80
14	-1.39	243.04	55	2.32	480.48	14	-1.34	241.24	55	2.41	481.24
15	-1.30	248.80	56	2.56	495.84	15	-1.24	247.64	56	2.65	496.60
16	-1.21	254.56	57	2.87	515.68	16	-1.15	253.40	57	2.96	516.44
17	-1.12	260.32	58	3.29	542.56	17	-1.06	259.16	58	3.39	543.96
18	-1.04	265.44	59	4.01	588.64	18	-0.98	264.28	59	4.10	589.40
19	-0.95	271.20	60	5.23	666.72	19	-0.89	270.04	60	5.32	667.48
20	-0.88	275.68				20	-0.81	275.16			
21	-0.80	280.80				21	-0.74	279.64			
22	-0.72	285.92				22	-0.66	284.76			
23	-0.65	290.40				23	-0.58	289.88			
24	-0.58	294.88				24	-0.51	294.36			
25	-0.50	300.00				25	-0.44	298.84			
26	-0.43	304.48				26	-0.36	303.96			
27	-0.36	308.96				27	-0.29	308.44			
28	-0.29	313.44				28	-0.22	312.92			
29	-0.22	317.92				29	-0.15	317.40			
30	-0.15	322.40				30	-0.08	321.88			
31	-0.08	326.88				31	-0.01	326.36			
32	-0.01	331.36				32	0.06	330.84			
33	0.06	335.84				33	0.13	335.32			
34	0.13	340.32				34	0.20	339.80			
35	0.20	344.80				35	0.28	344.92			
36	0.27	349.28				36	0.35	349.40			
37	0.34	353.76				37	0.42	353.88			
38	0.42	358.88				38	0.50	359.00			
39	0.49	363.36				39	0.57	363.48			
40	0.57	368.48				40	0.65	368.60			

Table 3.A.9: 2004 Reference Form Conversions for Mathematics Grades 2 to 7 from 2003 Administration

Raw Score	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
	Theta	Scaled Score										
0	-39.0000	0.0000	-39.0000	0.0000	-39.0000	2.3404	-39.0000	0.0000	-39.0000	0.0004	-39.0000	0.0003
1	-39.0000	0.0000	-5.3776	3.6763	-5.1273	62.5427	-4.9237	2.0609	-4.7371	54.4430	-4.3694	55.3776
2	-5.4047	1.6200	-4.6501	44.3416	-4.4092	98.5673	-4.1798	36.1250	-4.0135	94.6440	-3.6498	99.0755
3	-4.6887	38.2642	-4.2103	71.1186	-3.9785	120.8199	-3.7263	68.2664	-3.5779	119.9274	-3.2184	125.1315
4	-4.2598	65.2561	-3.8883	90.5453	-3.6654	137.2646	-3.3929	91.3872	-3.2603	138.0379	-2.9053	143.9591
5	-3.9484	84.7755	-3.6308	106.2758	-3.4166	150.1546	-3.1259	109.8324	-3.0076	152.5587	-2.6571	159.0977
6	-3.7012	100.4855	-3.4143	119.0901	-3.2085	160.5066	-2.9013	125.1536	-2.7958	164.7779	-2.4500	171.5655
7	-3.4945	113.1683	-3.2260	130.5549	-3.0283	169.6980	-2.7061	138.4617	-2.6123	175.2833	-2.2713	182.0185
8	-3.3156	124.5631	-3.0583	140.3643	-2.8685	177.9144	-2.5326	150.2274	-2.4495	184.6015	-2.1133	191.7890
9	-3.1569	134.1253	-2.9064	149.4332	-2.7242	185.5661	-2.3757	160.8632	-2.3025	193.2804	-1.9711	200.6188
10	-3.0137	143.0439	-2.7668	157.9262	-2.5922	192.3170	-2.2319	170.4131	-2.1678	200.9455	-1.8413	208.4175
11	-2.8825	151.3530	-2.6372	165.3245	-2.4699	198.4831	-2.0987	179.3917	-2.0432	207.9501	-1.7214	215.5523
12	-2.7610	158.5415	-2.5158	172.5529	-2.3556	204.1545	-1.9743	187.7855	-1.9267	214.8726	-1.6098	222.0284
13	-2.6474	165.5799	-2.4012	179.7904	-2.2480	209.7297	-1.8573	195.5814	-1.8171	220.8323	-1.5050	228.1915
14	-2.5404	172.5998	-2.2925	185.9953	-2.1460	214.9124	-1.7464	202.7651	-1.7132	227.1245	-1.4059	234.3374
15	-2.4388	178.7651	-2.1886	192.0357	-2.0488	219.9902	-1.6409	209.9732	-1.6143	232.4908	-1.3117	240.1001
16	-2.3420	184.5961	-2.0891	198.0763	-1.9558	224.6782	-1.5400	217.2039	-1.5195	238.2422	-1.2217	245.6021
17	-2.2491	190.4228	-1.9932	204.1170	-1.8662	229.2558	-1.4430	223.2020	-1.4285	242.9974	-1.1353	250.7028
18	-2.1597	196.2486	-1.9005	209.6202	-1.7797	233.8370	-1.3496	229.7697	-1.3405	248.2025	-1.0520	255.5693
19	-2.0733	201.8041	-1.8106	214.5129	-1.6959	238.0302	-1.2591	235.7879	-1.2554	252.8926	-0.9715	260.4248
20	-1.9894	206.8178	-1.7231	219.8796	-1.6145	242.1081	-1.1714	241.7668	-1.1727	258.1288	-0.8933	265.2695
21	-1.9078	211.6872	-1.6378	224.7576	-1.5351	246.1888	-1.0860	247.1592	-1.0921	262.7826	-0.8172	270.1038
22	-1.8281	216.7867	-1.5544	230.1190	-1.4574	250.2722	-1.0027	253.0974	-1.0133	266.8970	-0.7430	274.5122
23	-1.7501	221.4737	-1.4727	234.9815	-1.3813	253.9666	-0.9212	258.5198	-0.9362	271.5248	-0.6703	278.7252
24	-1.6735	226.1724	-1.3924	239.7848	-1.3065	257.9372	-0.8414	263.8816	-0.8604	275.6667	-0.5990	282.9302
25	-1.5982	230.8815	-1.3133	244.0331	-1.2329	261.6335	-0.7629	269.2550	-0.7859	280.2652	-0.5289	287.1280
26	-1.5239	235.6044	-1.2353	248.7698	-1.1603	265.2156	-0.6856	274.0347	-0.7125	284.3481	-0.4599	291.3176
27	-1.4506	240.3422	-1.1583	253.5519	-1.0885	269.1985	-0.6094	279.3587	-0.6399	288.4288	-0.3917	295.5003
28	-1.3779	245.0961	-1.0820	257.7860	-1.0173	272.8973	-0.5341	284.1489	-0.5681	292.5068	-0.3242	299.6762
29	-1.3059	249.2888	-1.0063	262.4947	-0.9468	276.4853	-0.4595	289.5006	-0.4969	296.5816	-0.2572	303.8456
30	-1.2343	254.0366	-0.9311	266.7233	-0.8766	280.0762	-0.3855	294.2949	-0.4261	300.6526	-0.1907	307.6074
31	-1.1629	258.3071	-0.8563	271.4088	-0.8067	283.2595	-0.3120	299.0441	-0.3557	304.7195	-0.1246	311.5656
32	-1.0918	262.5324	-0.7818	275.6361	-0.7369	286.7557	-0.2388	304.4434	-0.2856	308.7818	-0.0586	315.7168
33	-1.0207	266.7760	-0.7073	280.2961	-0.6673	290.3517	-0.1658	309.2336	-0.2155	312.8392	0.0073	319.4820
34	-0.9496	271.5366	-0.6329	284.5256	-0.5975	293.9504	-0.0929	314.0034	-0.1455	316.8913	0.0733	323.4025
35	-0.8782	275.9428	-0.5583	289.1570	-0.5275	297.5515	-0.0199	318.7791	-0.0753	320.9378	0.1394	327.5375
36	-0.8065	280.2470	-0.4835	293.3946	-0.4572	301.1549	0.0532	323.5618	-0.0048	324.9783	0.2058	331.6676
37	-0.7344	285.0544	-0.4083	297.9972	-0.3864	304.7602	0.1267	328.3843	0.0660	329.0128	0.2726	335.7930
38	-0.6616	289.5403	-0.3326	302.7104	-0.3150	308.3671	0.2006	333.8139	0.1374	333.0408	0.3400	339.5833
39	-0.5882	293.9108	-0.2562	306.9672	-0.2429	311.9755	0.2751	338.6132	0.2094	337.0622	0.4080	343.4305
40	-0.5138	298.3046	-0.1791	311.5254	-0.1700	315.5851	0.3503	343.4177	0.2821	341.0768	0.4769	347.8492
41	-0.4384	303.2284	-0.1010	316.2283	-0.0960	319.6538	0.4264	348.3252	0.3558	345.2935	0.5468	352.2515
42	-0.3617	307.7846	-0.0217	320.9292	-0.0208	323.3174	0.5036	353.8268	0.4307	349.6544	0.6178	356.3581
43	-0.2837	312.7891	0.0588	326.0325	0.0558	326.9298	0.5821	359.2009	0.5068	353.8599	0.6901	360.7264
44	-0.2039	317.9246	0.1409	330.9280	0.1340	331.0186	0.6620	364.1779	0.5844	358.4156	0.7640	365.1603
45	-0.1223	323.0891	0.2247	336.0059	0.2140	335.1474	0.7436	369.6954	0.6637	362.9630	0.8396	369.4941
46	-0.0386	328.2834	0.3105	340.9278	0.2961	339.2754	0.8272	375.2175	0.7451	367.7086	0.9173	374.1741
47	0.0476	333.5082	0.3987	345.9865	0.3806	343.4049	0.9131	380.9583	0.8287	372.6029	0.9973	379.0585
48	0.1366	338.8294	0.4895	351.6246	0.4678	348.0325	1.0016	387.1805	0.9148	377.3238	1.0800	384.1283
49	0.2288	344.7765	0.5833	357.1833	0.5582	352.6740	1.0931	393.4073	1.0040	382.4028	1.1657	388.9786
50	0.3247	350.7614	0.6807	362.8130	0.6521	357.3132	1.1881	399.6380	1.0967	387.6587	1.2549	394.3951
51	0.4250	356.9810	0.7822	369.0334	0.7503	361.9628	1.2871	406.1769	1.1934	393.2818	1.3482	400.2416
52	0.5302	363.7093	0.8884	375.5460	0.8533	367.6136	1.3909	413.1100	1.2948	399.0668	1.4463	406.0862
53	0.6412	370.4775	1.0003	382.0751	0.9619	372.7718	1.5002	420.3973	1.4017	405.2330	1.5500	412.1594
54	0.7592	377.6558	1.1188	389.2100	1.0774	378.4607	1.6162	428.0335	1.5152	411.5397	1.6603	419.0806
55	0.8855	385.6222	1.2453	396.9758	1.2009	385.1289	1.7401	436.0729	1.6366	418.3854	1.7786	425.6865
56	1.0220	394.3865	1.3817	405.0737	1.3343	391.8175	1.8738	445.2601	1.7677	425.8952	1.9067	433.4411
57	1.1711	403.3879	1.5302	413.8163	1.4800	399.0320	2.0196	454.9943	1.9108	434.3702	2.0469	442.2426
58	1.3361	413.7675	1.6943	423.5296	1.6413	407.2561	2.1810	465.6908	2.0694	443.4850	2.2026	451.1860
59	1.5220	425.2827	1.8787	434.5613	1.8230	416.4815	2.3628	477.8353	2.2482	453.6744	2.3787	461.8764
60	1.7365	439.0008	2.0912	447.3044	2.0329	426.7818	2.5725	491.9620	2.4549	465.1600	2.5827	474.3280
61	1.9924	455.1738	2.3443	462.8575	2.2835	439.6042	2.8227	508.8213	2.7020	479.4009	2.8272	488.6182
62	2.3134	475.7021	2.6617	481.9787	2.5985	455.5237	3.1375	529.7707	3.0133	497.1501	3.1362	507.6713
63	2.7528	503.2523	3.0968	508.4709	3.0313	477.6422	3.5697	558.7546	3.4420	521.8778	3.5626	532.7168
64	3.4808	549.6945	3.8188	552.6560	3.7511	514.2673	4.2893	607.3816	4.1579	562.5858	4.2763	575.7556
65	20.0000	632.1195	20.0000	633.7995	20.0000	575.5796	20.0000	691.2495	20.0000	630.3295	20.0000	648.9995

Table 3.A.10: 2004 Reference Form Conversions for General Math, Algebra I, Geometry, Algebra II, and High School Math from 2002 Administration

Raw Score	General Mathematics		Algebra I		Geometry		Algebra II		High School Mathematics	
	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score
0	-5.50	0.0	-5.51	-68.251	-5.65	-45.0	-5.64	-54.8300	-5.90	-87.80
1	-4.28	53.2	-4.29	17.271	-4.42	28.8	-4.41	26.0425	-4.67	-11.54
2	-3.56	96.4	-3.57	67.743	-3.70	72.0	-3.70	72.7250	-3.95	33.10
3	-3.13	122.2	-3.14	97.886	-3.27	97.8	-3.27	100.9975	-3.52	59.76
4	-2.82	140.8	-2.83	119.617	-2.95	117.0	-2.95	122.0375	-3.20	79.60
5	-2.57	155.8	-2.58	137.142	-2.70	132.0	-2.71	137.8175	-2.95	95.10
6	-2.36	168.4	-2.37	151.863	-2.49	144.6	-2.50	151.6250	-2.73	108.74
7	-2.19	178.6	-2.19	164.481	-2.30	156.0	-2.32	163.4600	-2.55	119.90
8	-2.03	188.2	-2.03	175.697	-2.14	165.6	-2.16	173.9800	-2.39	129.82
9	-1.88	197.2	-1.89	185.511	-1.99	174.6	-2.02	183.1850	-2.24	139.12
10	-1.75	205.0	-1.76	194.624	-1.86	182.4	-1.89	191.7325	-2.10	147.80
11	-1.63	212.2	-1.64	203.036	-1.73	190.2	-1.77	199.6225	-1.98	155.24
12	-1.52	218.8	-1.52	211.448	-1.61	197.4	-1.65	207.5125	-1.86	162.68
13	-1.42	224.8	-1.42	218.458	-1.50	204.0	-1.55	214.0875	-1.75	169.50
14	-1.32	230.8	-1.31	226.169	-1.40	210.0	-1.45	220.6625	-1.64	176.32
15	-1.22	236.8	-1.22	232.478	-1.30	216.0	-1.35	227.2375	-1.54	182.52
16	-1.13	242.2	-1.12	239.488	-1.20	222.0	-1.26	233.1550	-1.44	188.72
17	-1.04	247.6	-1.03	245.797	-1.11	227.4	-1.17	239.0725	-1.35	194.30
18	-0.96	252.4	-0.95	251.405	-1.02	232.8	-1.09	244.3325	-1.26	199.88
19	-0.88	257.2	-0.87	257.013	-0.94	237.6	-1.00	250.2500	-1.17	205.46
20	-0.80	262.0	-0.78	263.322	-0.85	243.0	-0.92	255.5100	-1.09	210.42
21	-0.72	266.8	-0.70	268.930	-0.77	247.8	-0.85	260.1125	-1.00	216.00
22	-0.64	271.6	-0.63	273.837	-0.69	252.6	-0.77	265.3725	-0.92	220.96
23	-0.57	275.8	-0.55	279.445	-0.61	257.4	-0.69	270.6325	-0.84	225.92
24	-0.50	280.0	-0.48	284.352	-0.53	262.2	-0.62	275.2350	-0.77	230.26
25	-0.43	284.2	-0.40	289.960	-0.46	266.4	-0.55	279.8375	-0.69	235.22
26	-0.36	288.4	-0.33	294.867	-0.38	271.2	-0.48	284.4400	-0.61	240.18
27	-0.29	292.6	-0.26	299.774	-0.31	275.4	-0.41	289.0425	-0.54	244.52
28	-0.22	296.8	-0.19	304.681	-0.23	280.2	-0.34	293.6450	-0.46	249.48
29	-0.15	301.0	-0.12	309.588	-0.16	284.4	-0.27	298.2475	-0.39	253.82
30	-0.08	305.2	-0.05	314.495	-0.09	288.6	-0.20	302.8500	-0.31	258.78
31	-0.02	308.8	0.02	319.402	-0.01	293.4	-0.13	307.4525	-0.24	263.12
32	0.05	313.0	0.09	324.309	0.06	297.6	-0.07	311.3975	-0.17	267.46
33	0.12	317.2	0.16	329.216	0.13	301.8	0.00	316.0000	-0.09	272.42
34	0.18	320.8	0.23	334.123	0.20	306.0	0.07	320.6025	-0.02	276.76
35	0.25	325.0	0.30	339.030	0.28	310.8	0.14	325.2050	0.05	281.10
36	0.32	329.2	0.37	343.937	0.35	315.0	0.21	329.8075	0.13	286.06
37	0.39	333.4	0.44	348.844	0.42	319.2	0.28	334.4100	0.20	290.40
38	0.46	337.6	0.51	353.751	0.50	324.0	0.35	339.0125	0.28	295.36
39	0.52	341.2	0.58	358.658	0.57	328.2	0.42	343.6150	0.35	299.70
40	0.59	345.4	0.66	364.266	0.65	333.0	0.49	348.2175	0.43	304.66
41	0.67	350.2	0.73	369.173	0.72	337.2	0.56	352.8200	0.51	309.62
42	0.74	354.4	0.80	374.080	0.80	342.0	0.63	357.4225	0.59	314.58
43	0.81	358.6	0.88	379.688	0.88	346.8	0.71	362.6825	0.67	319.54
44	0.89	363.4	0.96	385.296	0.96	351.6	0.78	367.2850	0.75	324.50
45	0.96	367.6	1.03	390.203	1.04	356.4	0.86	372.5450	0.83	329.46
46	1.04	372.4	1.12	396.512	1.13	361.8	0.94	377.8050	0.92	335.04
47	1.12	377.2	1.20	402.120	1.22	367.2	1.02	383.0650	1.01	340.62
48	1.21	382.6	1.29	408.429	1.31	372.6	1.11	388.9825	1.10	346.20
49	1.29	387.4	1.37	414.037	1.40	378.0	1.19	394.2425	1.19	351.78
50	1.38	392.8	1.47	421.047	1.50	384.0	1.29	400.8175	1.29	357.98
51	1.48	398.8	1.56	427.356	1.60	390.0	1.38	406.7350	1.39	364.18
52	1.58	404.8	1.66	434.366	1.70	396.0	1.48	413.3100	1.50	371.00
53	1.68	410.8	1.77	442.077	1.81	402.6	1.59	420.5425	1.61	377.82
54	1.80	418.0	1.89	450.489	1.93	409.8	1.70	427.7750	1.73	385.26
55	1.91	424.6	2.01	458.901	2.06	417.6	1.82	435.6650	1.86	393.32
56	2.04	432.4	2.14	468.014	2.19	425.4	1.95	444.2125	2.00	402.00
57	2.19	441.4	2.28	477.828	2.34	434.4	2.09	453.4175	2.15	411.30
58	2.34	450.4	2.44	489.044	2.51	444.6	2.25	463.9375	2.31	421.22
59	2.52	461.2	2.62	501.662	2.69	455.4	2.43	475.7725	2.50	433.00
60	2.73	473.8	2.83	516.383	2.90	468.0	2.63	488.9225	2.72	446.64
61	2.97	488.2	3.07	533.207	3.16	483.6	2.88	505.3600	2.97	462.14
62	3.29	507.4	3.39	555.639	3.48	502.8	3.19	525.7425	3.29	481.98
63	3.71	532.6	3.82	585.782	3.91	528.6	3.62	554.0150	3.73	509.26
64	4.43	575.8	4.53	635.553	4.64	572.4	4.34	601.3550	4.46	554.52
65	5.65	649.0	5.75	721.075	5.86	645.6	5.56	681.5700	5.69	630.78

Table 3.A.11: 2004 Reference Form Conversions for Integrated Mathematics I, II, and III from 2003 Administration

Raw Score	Integrated Mathematics I		Integrated Mathematics II		Integrated Mathematics III	
	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score
0	-39.0000	-77.6994	-39.0000	-60.2795	-39.0000	-100.7244
1	-4.0824	18.0912	-4.4975	43.8782	-4.5718	-14.0301
2	-3.3663	70.3447	-3.7783	95.9431	-3.8572	40.0545
3	-2.9376	101.2543	-3.3465	125.4828	-3.4300	74.3628
4	-2.6264	123.7295	-3.0323	146.6916	-3.1203	98.8866
5	-2.3796	141.6978	-2.7825	163.7435	-2.8749	117.9066
6	-2.1735	156.3637	-2.5734	177.8590	-2.6701	133.6062
7	-1.9953	169.0150	-2.3923	189.9340	-2.4932	147.4608
8	-1.8375	180.0722	-2.2316	200.7563	-2.3367	159.5550
9	-1.6952	190.1452	-2.0865	210.2434	-2.1957	170.3120
10	-1.5651	199.7964	-1.9537	218.8080	-2.0668	180.3908
11	-1.4447	208.0918	-1.8306	227.2617	-1.9476	189.4696
12	-1.3325	216.6945	-1.7157	234.9862	-1.8365	197.7053
13	-1.2268	223.9365	-1.6074	242.3182	-1.7320	205.9625
14	-1.1268	231.3494	-1.5048	248.8296	-1.6331	213.7607
15	-1.0316	237.8892	-1.4070	255.2620	-1.5389	220.7700
16	-0.9405	244.4930	-1.3133	261.6174	-1.4488	227.9302
17	-0.8529	251.1019	-1.2232	267.8988	-1.3623	234.1763
18	-0.7684	256.9728	-1.1363	273.4470	-1.2787	240.8432
19	-0.6866	262.8710	-1.0520	278.8158	-1.1978	246.9311
20	-0.6071	268.9210	-0.9701	284.1236	-1.1193	253.0298
21	-0.5297	274.2541	-0.8903	289.3718	-1.0428	259.0101
22	-0.4540	280.1819	-0.8122	294.5615	-0.9680	264.3660
23	-0.3799	285.3782	-0.7358	299.6941	-0.8947	269.7313
24	-0.3071	290.5403	-0.6607	304.7719	-0.8228	275.1044
25	-0.2355	295.6705	-0.5868	309.7929	-0.7520	280.4860
26	-0.1649	300.7689	-0.5139	314.7605	-0.6822	285.8757
27	-0.0951	305.8354	-0.4419	319.2133	-0.6132	291.2730
28	-0.0260	310.8702	-0.3706	323.8588	-0.5449	296.6776
29	0.0426	315.8734	-0.2999	328.6711	-0.4771	302.0051
30	0.1107	320.8453	-0.2296	333.4335	-0.4098	306.7327
31	0.1785	325.7860	-0.1596	338.1481	-0.3427	312.0744
32	0.2462	330.6956	-0.0898	342.8116	-0.2758	316.8139
33	0.3138	335.5742	-0.0201	347.4287	-0.2089	322.1654
34	0.3815	340.6538	0.0497	351.9994	-0.1420	326.9196
35	0.4493	345.9393	0.1196	356.5238	-0.0748	332.3687
36	0.5175	350.7260	0.1899	361.0027	-0.0074	337.7270
37	0.5860	355.4823	0.2605	365.7335	0.0605	342.5086
38	0.6552	360.3666	0.3317	370.5067	0.1289	347.8672
39	0.7250	365.7334	0.4036	375.0376	0.1981	352.6702
40	0.7957	370.9700	0.4764	379.9553	0.2681	358.1464
41	0.8674	375.7216	0.5501	384.8241	0.3390	363.6277
42	0.9402	381.6272	0.6250	389.6463	0.4112	369.1139
43	1.0143	386.8552	0.7012	394.9874	0.4847	374.6079
44	1.0901	392.0528	0.7790	400.3048	0.5598	380.2642
45	1.1676	397.7786	0.8586	405.5695	0.6366	386.3853
46	1.2472	403.5467	0.9402	411.0647	0.7155	392.0770
47	1.3291	409.2785	1.0242	416.7991	0.7967	398.3818
48	1.4136	415.3461	1.1108	422.4763	0.8806	404.9032
49	1.5012	421.9325	1.2006	428.0961	0.9676	411.7906
50	1.5924	428.5711	1.2939	434.6649	1.0580	418.3610
51	1.6876	435.0651	1.3913	441.2740	1.1526	425.7512
52	1.7877	442.4547	1.4935	448.0535	1.2520	433.4145
53	1.8933	449.7943	1.6013	455.1646	1.3569	441.1678
54	2.0056	458.2478	1.7158	462.6389	1.4686	449.9367
55	2.1258	466.6932	1.8384	470.9931	1.5882	459.0699
56	2.2560	476.2415	1.9707	479.9971	1.7176	469.0541
57	2.3982	486.6405	2.1153	489.7804	1.8591	479.8988
58	2.5559	497.7955	2.2754	500.5143	2.0161	492.0518
59	2.7340	510.3582	2.4559	513.1084	2.1935	505.4715
60	2.9401	524.9404	2.6644	527.4836	2.3988	521.3104
61	3.1867	543.0688	2.9136	544.3242	2.6447	540.6614
62	3.4976	565.8406	3.2271	565.2819	2.9549	564.7865
63	3.9261	598.1901	3.6581	598.0608	3.3826	598.2234
64	4.6417	645.8519	4.3766	642.8383	4.0976	653.9256
65	20.0000	714.6994	20.0000	699.9595	20.0000	753.3244

Table 3.A.12: 2004 Reference Form Conversions for Biology, Chemistry, Earth Science, and Physics from 2002 Administration

Raw Score	Biology		Chemistry		Earth Science		Physics	
	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score	Theta	Scaled Score
0	0.00	0.0	-5.49	51.99	-5.51	51.01	-5.53	51.4125
1	-4.16	113.0	-4.27	111.77	-4.29	110.79	-4.31	110.8875
2	-3.44	149.0	-3.55	147.05	-3.58	145.58	-3.59	145.9875
3	-3.01	170.5	-3.13	167.63	-3.15	166.65	-3.16	166.9500
4	-2.69	186.5	-2.81	183.31	-2.84	181.84	-2.85	182.0625
5	-2.44	199.0	-2.57	195.07	-2.59	194.09	-2.60	194.2500
6	-2.24	209.0	-2.36	205.36	-2.38	204.38	-2.39	204.4875
7	-2.06	218.0	-2.18	214.18	-2.21	212.71	-2.21	213.2625
8	-1.90	226.0	-2.03	221.53	-2.05	220.55	-2.06	220.5750
9	-1.75	233.5	-1.88	228.88	-1.91	227.41	-1.91	227.8875
10	-1.62	240.0	-1.75	235.25	-1.78	233.78	-1.78	234.2250
11	-1.50	246.0	-1.63	241.13	-1.66	239.66	-1.66	240.0750
12	-1.38	252.0	-1.52	246.52	-1.54	245.54	-1.55	245.4375
13	-1.28	257.0	-1.41	251.91	-1.44	250.44	-1.44	250.8000
14	-1.18	262.0	-1.31	256.81	-1.34	255.34	-1.34	255.6750
15	-1.08	267.0	-1.22	261.22	-1.24	260.24	-1.24	260.5500
16	-0.99	271.5	-1.13	265.63	-1.15	264.65	-1.15	264.9375
17	-0.90	276.0	-1.04	270.04	-1.07	268.57	-1.06	269.3250
18	-0.81	280.5	-0.95	274.45	-0.98	272.98	-0.97	273.7125
19	-0.73	284.5	-0.87	278.37	-0.90	276.90	-0.89	277.6125
20	-0.65	288.5	-0.79	282.29	-0.82	280.82	-0.81	281.5125
21	-0.57	292.5	-0.71	286.21	-0.74	284.74	-0.73	285.4125
22	-0.49	296.5	-0.63	290.13	-0.67	288.17	-0.65	289.3125
23	-0.42	300.0	-0.56	293.56	-0.59	292.09	-0.57	293.2125
24	-0.34	304.0	-0.48	297.48	-0.52	295.52	-0.50	296.6250
25	-0.27	307.5	-0.41	300.91	-0.45	298.95	-0.42	300.5250
26	-0.20	311.0	-0.34	304.34	-0.37	302.87	-0.35	303.9375
27	-0.12	315.0	-0.26	308.26	-0.30	306.30	-0.28	307.3500
28	-0.05	318.5	-0.19	311.69	-0.23	309.73	-0.20	311.2500
29	0.02	322.0	-0.12	315.12	-0.16	313.16	-0.13	314.6625
30	0.09	325.5	-0.05	318.55	-0.09	316.59	-0.06	318.0750
31	0.16	329.0	0.02	321.98	-0.02	320.02	0.01	321.4875
32	0.23	332.5	0.09	325.41	0.05	323.45	0.08	324.9000
33	0.30	336.0	0.16	328.84	0.12	326.88	0.15	328.3125
34	0.37	339.5	0.24	332.76	0.19	330.31	0.23	332.2125
35	0.45	343.5	0.31	336.19	0.26	333.74	0.30	335.6250
36	0.52	347.0	0.38	339.62	0.33	337.17	0.37	339.0375
37	0.59	350.5	0.46	343.54	0.40	340.60	0.45	342.9375
38	0.67	354.5	0.53	346.97	0.48	344.52	0.52	346.3500
39	0.74	358.0	0.61	350.89	0.55	347.95	0.60	350.2500
40	0.82	362.0	0.69	354.81	0.63	351.87	0.68	354.1500
41	0.90	366.0	0.77	358.73	0.71	355.79	0.76	358.0500
42	0.98	370.0	0.85	362.65	0.79	359.71	0.84	361.9500
43	1.07	374.5	0.94	367.06	0.87	363.63	0.93	366.3375
44	1.15	378.5	1.02	370.98	0.96	368.04	1.02	370.7250
45	1.24	383.0	1.12	375.88	1.05	372.45	1.11	375.1125
46	1.34	388.0	1.21	380.29	1.14	376.86	1.20	379.5000
47	1.44	393.0	1.31	385.19	1.24	381.76	1.30	384.3750
48	1.54	398.0	1.42	390.58	1.34	386.66	1.41	389.7375
49	1.65	403.5	1.53	395.97	1.45	392.05	1.52	395.1000
50	1.77	409.5	1.65	401.85	1.57	397.93	1.64	400.9500
51	1.90	416.0	1.78	408.22	1.70	404.30	1.77	407.2875
52	2.04	423.0	1.92	415.08	1.84	411.16	1.91	414.1125
53	2.20	431.0	2.08	422.92	1.99	418.51	2.07	421.9125
54	2.37	439.5	2.25	431.25	2.17	427.33	2.25	430.6875
55	2.58	450.0	2.46	441.54	2.37	437.13	2.45	440.4375
56	2.82	462.0	2.70	453.30	2.62	449.38	2.70	452.6250
57	3.13	477.5	3.01	468.49	2.92	464.08	3.01	467.7375
58	3.56	499.0	3.44	489.56	3.35	485.15	3.43	488.2125
59	4.27	534.5	4.16	524.84	4.06	519.94	4.15	523.3125
60	5.49	595.5	5.38	584.62	5.28	579.72	5.37	582.7875

Table 3.A.13: 2004 Reference Form Conversion for Grade 5 Science from 2004 Administration

Grade 5 Science		
Raw Score	Theta	Scaled Score
0	-5.0000	47.3183
1	-4.4314	80.1096
2	-3.7132	121.5283
3	-3.2825	146.3668
4	-2.9695	164.4175
5	-2.7210	178.7486
6	-2.5132	190.7324
7	-2.3334	201.1015
8	-2.1741	210.2884
9	-2.0304	218.5755
10	-1.8989	226.1592
11	-1.7772	233.1776
12	-1.6635	239.7347
13	-1.5565	245.9054
14	-1.4551	251.7532
15	-1.3585	257.3241
16	-1.2660	262.6586
17	-1.1769	267.7970
18	-1.0909	272.7566
19	-1.0074	277.5721
20	-0.9263	282.2491
21	-0.8470	286.8224
22	-0.7695	291.2918
23	-0.6934	295.6805
24	-0.6185	300.0000
25	-0.5447	304.2561
26	-0.4716	308.4717
27	-0.3993	312.6413
28	-0.3274	316.7878
29	-0.2558	320.9170
30	-0.1845	325.0288
31	-0.1131	329.1465
32	-0.0417	333.2641
33	0.0300	337.3991
34	0.1022	341.5629
35	0.1750	345.7612
36	0.2485	350.0000
37	0.3230	354.2964
38	0.3987	358.6621
39	0.4757	363.1027
40	0.5543	367.6355
41	0.6348	372.2780
42	0.7175	377.0473
43	0.8028	381.9666
44	0.8909	387.0473
45	0.9825	392.3299
46	1.0780	397.8374
47	1.1782	403.6159
48	1.2839	409.7116
49	1.3962	416.1880
50	1.5163	423.1142
51	1.6462	430.6055
52	1.7880	438.7832
53	1.9453	447.8547
54	2.1229	458.0969
55	2.3284	469.9481
56	2.5743	484.1292
57	2.8845	502.0185
58	3.3120	526.6724
59	4.0269	567.9008
60	5.0000	624.0196

Appendix 3.B

Table 3.B.1: 2004 New Form Conversions for English-language Arts Grades 2 & 3

Grade 2						Grade 3					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	8.0009	150	41	337.4599	337	0	-12.3991	150	41	324.3356	324
1	80.4762	150	42	341.3336	341	1	53.5161	150	42	328.4272	328
2	118.6954	150	43	345.1752	345	2	92.4886	150	43	332.3211	332
3	141.4533	150	44	348.9872	349	3	116.2723	150	44	336.5255	337
4	157.1682	157	45	352.8061	353	4	133.4385	150	45	340.7170	341
5	169.8973	170	46	357.0929	357	5	146.9331	150	46	344.8049	345
6	180.7611	181	47	361.3505	361	6	158.2237	158	47	349.3797	349
7	190.0069	190	48	365.6963	366	7	167.7900	168	48	354.1221	354
8	198.0035	198	49	370.4025	370	8	176.3294	176	49	358.8668	359
9	205.3426	205	50	375.0808	375	9	184.1752	184	50	363.8212	364
10	212.0465	212	51	379.9060	380	10	191.3555	191	51	368.7820	369
11	218.3431	218	52	385.2098	385	11	197.8879	198	52	374.0984	374
12	224.2899	224	53	390.9639	391	12	203.9753	204	53	380.0231	380
13	229.6006	230	54	397.0220	397	13	209.7642	210	54	385.9311	386
14	234.8851	235	55	403.3812	403	14	215.2627	215	55	392.3939	392
15	239.6480	240	56	410.4961	410	15	220.7556	221	56	399.2768	399
16	244.7135	245	57	418.3782	418	16	225.7740	226	57	407.0334	407
17	248.9598	249	58	427.4720	427	17	230.6431	231	58	415.5723	416
18	253.3229	253	59	437.8201	438	18	234.9600	235	59	425.0385	425
19	257.7240	258	60	450.4113	450	19	239.4763	239	60	436.2144	436
20	261.5867	262	61	466.5590	467	20	243.8592	244	61	449.7322	450
21	265.8024	266	62	489.6259	490	21	247.9584	248	62	466.6145	467
22	269.7251	270	63	525.2934	525	22	252.2600	252	63	489.8270	490
23	273.5157	274	64	578.9992	600	23	256.1611	256	64	528.1543	528
24	277.2847	277				24	260.3720	260	65	594.9791	600
25	281.0293	281				25	264.1268	264			
26	284.7139	285				26	267.9463	268			
27	287.9498	288				27	272.0088	272			
28	291.6243	292				28	275.9561	276			
29	295.2744	295				29	279.6001	280			
30	298.8861	299				30	282.9826	283			
31	302.0009	302				31	286.7663	287			
32	305.5768	306				32	290.5529	291			
33	309.1274	309				33	294.3416	294			
34	312.6527	313				34	298.1319	298			
35	316.1525	316				35	301.7419	302			
36	319.6266	320				36	305.1845	305			
37	323.0750	323				37	308.9746	309			
38	326.5013	327				38	312.7653	313			
39	330.1217	330				39	316.5532	317			
40	333.7703	334				40	320.3449	320			

Table 3.B.2: 2004 New Form Conversions for English-language Arts Grade 4 (with and without essay)

Grade 4						Grade 4 (without essay)					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	0.0014	150	41	320.4312	320	0	0.0014	150	41	329.3324	329
1	65.0016	150	42	323.3624	323	1	84.6315	150	42	332.3957	332
2	105.6854	150	43	325.9378	326	2	124.2183	150	43	335.4502	335
3	130.4380	150	44	328.7712	329	3	147.2646	150	44	338.4956	338
4	147.8827	150	45	331.5487	332	4	163.3832	163	45	341.5315	342
5	161.6369	162	46	334.5833	335	5	175.9597	176	46	344.5577	345
6	173.1749	173	47	337.5669	338	6	186.4255	186	47	347.5736	348
7	183.0796	183	48	340.1907	340	7	195.3359	195	48	350.9250	351
8	191.7368	192	49	343.1932	343	8	203.0935	203	49	354.0740	354
9	199.3505	199	50	346.2187	346	9	210.1933	210	50	357.1898	357
10	206.2527	206	51	349.2384	349	10	216.6900	217	51	360.6403	361
11	212.5611	213	52	352.2543	352	11	222.5248	223	52	363.9345	364
12	218.5041	219	53	355.2653	355	12	228.0906	228	53	367.2703	367
13	224.0790	224	54	358.2695	358	13	233.3719	233	54	371.1448	371
14	229.1227	229	55	361.6285	362	14	238.2710	238	55	374.7686	375
15	234.3118	234	56	364.7585	365	15	242.7296	243	56	378.3824	378
16	238.8432	239	57	368.2473	368	16	247.1579	247	57	382.3616	382
17	243.3546	243	58	371.3708	371	17	251.5095	252	58	386.4038	386
18	247.2897	247	59	374.9368	375	18	255.4956	255	59	390.4234	390
19	251.4516	251	60	378.5243	379	19	259.6800	260	60	394.7772	395
20	255.1905	255	61	382.4064	382	20	263.4403	263	61	399.3155	399
21	258.9367	259	62	386.1517	386	21	266.7825	267	62	404.3160	404
22	262.6769	263	63	390.1880	390	22	270.5730	271	63	409.4201	409
23	266.3108	266	64	394.2963	394	23	274.0683	274	64	415.0077	415
24	269.6529	270	65	398.5959	399	24	277.2321	277	65	420.7214	421
25	273.0455	273	66	403.2053	403	25	280.8756	281	66	427.0363	427
26	276.2426	276	67	407.8690	408	26	284.0520	284	67	434.1150	434
27	279.8079	280	68	412.7776	413	27	287.2073	287	68	442.0928	442
28	282.9375	283	69	417.9572	418	28	290.3598	290	69	450.9054	451
29	286.0099	286	70	423.5294	424	29	293.5075	294	70	460.9672	461
30	288.7191	289	71	429.4102	429	30	296.6502	297	71	473.2842	473
31	291.8133	292	72	435.7033	436	31	299.7884	300	72	489.2578	489
32	294.8970	295	73	442.8301	443	32	302.8427	303	73	511.3339	511
33	297.6787	298	74	450.6265	451	33	305.6265	306	74	547.2969	547
34	300.6473	301	75	459.0430	459	34	308.6710	309	75	607.4990	600
35	303.6252	304	76	468.9224	469	35	311.7867	312			
36	306.3424	306	77	480.7698	481	36	314.7978	315			
37	309.0885	309	78	495.2416	495	37	317.5913	318			
38	312.0338	312	79	513.6702	514	38	320.5941	321			
39	314.6363	315	80	537.1013	537	39	323.6764	324			
40	317.7130	318	81	566.5647	567	40	326.4003	326			
			82	603.1227	600						
			83	643.4993	600						

Table 3.B.3: 2004 New Form Conversions for English-language Arts Grades 5 and 6

Grade 5						Grade 6					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	25.0010	150	41	323.0709	323	0	0.0011	150	41	325.1673	325
1	74.4754	150	42	326.2093	326	1	77.7332	150	42	328.1722	328
2	110.3682	150	43	329.3503	329	2	116.8614	150	43	331.6045	332
3	134.9725	150	44	332.4931	332	3	139.2848	150	44	334.6253	335
4	151.8551	152	45	335.6380	336	4	155.0290	155	45	337.8244	338
5	164.7388	165	46	338.7844	339	5	167.9005	168	46	340.9614	341
6	175.1444	175	47	341.9319	342	6	178.2591	178	47	344.2812	344
7	184.3754	184	48	345.0831	345	7	187.3986	187	48	347.3464	347
8	192.6041	193	49	348.5122	349	8	195.2414	195	49	350.6476	351
9	199.9174	200	50	351.8795	352	9	202.3266	202	50	354.0628	354
10	206.5354	207	51	355.2352	355	10	208.8847	209	51	357.6390	358
11	212.8808	213	52	358.6235	359	11	214.9505	215	52	361.2450	361
12	218.4937	218	53	362.2137	362	12	220.6431	221	53	364.9149	365
13	223.8025	224	54	365.9715	366	13	225.9836	226	54	368.4549	368
14	228.9217	229	55	369.7479	370	14	230.9344	231	55	372.0713	372
15	233.6967	234	56	373.5225	374	15	235.8013	236	56	376.1348	376
16	238.1516	238	57	377.3032	377	16	240.3066	240	57	380.1864	380
17	242.5758	243	58	381.5710	382	17	244.4801	244	58	384.3022	384
18	246.9341	247	59	385.9636	386	18	248.6305	249	59	388.8088	389
19	250.8805	251	60	390.3532	390	19	252.7580	253	60	393.2924	393
20	254.6951	255	61	394.8274	395	20	256.6255	257	61	397.8732	398
21	258.4563	258	62	399.6299	400	21	260.3515	260	62	402.9376	403
22	262.1225	262	63	404.8429	405	22	264.1642	264	63	408.3949	408
23	265.9299	266	64	410.3775	410	23	267.7899	268	64	414.0457	414
24	269.3049	269	65	416.3731	416	24	271.2238	271	65	420.0222	420
25	272.9157	273	66	422.6497	423	25	274.6864	275	66	426.6896	427
26	276.1684	276	67	430.0237	430	26	278.2601	278	67	433.9571	434
27	279.5172	280	68	437.7098	438	27	281.6506	282	68	441.8972	442
28	282.9683	283	69	446.4700	446	28	284.9191	285	69	450.9810	451
29	286.2142	286	70	456.7204	457	29	288.1673	288	70	461.6183	462
30	289.3178	289	71	469.0531	469	30	291.3667	291	71	474.3793	474
31	292.4038	292	72	485.1629	485	31	294.3956	294	72	490.9462	491
32	295.4967	295	73	507.7329	508	32	297.2898	297	73	514.6888	515
33	298.5958	299	74	545.0008	545	33	300.4630	300	74	550.2239	550
34	301.7010	302	75	611.4990	600	34	303.6173	304	75	602.2691	600
35	304.8118	305				35	306.7528	307			
36	307.9278	308				36	309.8691	310			
37	311.0485	311				37	312.9670	313			
38	314.1735	314				38	316.0455	316			
39	317.3026	317				39	319.1046	319			
40	320.2252	320				40	322.1462	322			

Table 3.B.4: 2004 New Form Conversions for English-language Arts Grade 7 (with and without essay)

Grade 7						Grade 7 (without essay)					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	-40.1188	150	41	309.4788	309	0	0.0006	150	41	319.9633	320
1	44.8448	150	42	312.7643	313	1	50.9649	150	42	323.5963	324
2	87.4116	150	43	316.0364	316	2	94.6713	150	43	326.9134	327
3	112.1789	150	44	319.2945	319	3	118.7373	150	44	330.1561	330
4	130.1900	150	45	322.5394	323	4	136.1826	150	45	333.7447	334
5	143.8633	150	46	325.7701	326	5	149.8460	150	46	337.1469	337
6	154.9292	155	47	328.9869	329	6	161.3398	161	47	340.5575	341
7	164.8792	165	48	332.1897	332	7	171.2148	171	48	344.0299	344
8	173.3595	173	49	335.3785	335	8	179.9096	180	49	347.6749	348
9	180.8453	181	50	338.5531	339	9	187.6479	188	50	351.3510	351
10	187.9877	188	51	342.0717	342	10	194.8645	195	51	355.0033	355
11	194.3054	194	52	345.3967	345	11	201.4919	201	52	358.6335	359
12	200.0331	200	53	348.9701	349	12	207.4871	207	53	362.3464	362
13	205.5946	206	54	352.3206	352	13	213.1936	213	54	366.3804	366
14	210.8129	211	55	355.9114	356	14	218.6634	219	55	370.5386	371
15	215.7858	216	56	359.6177	360	15	223.7483	224	56	374.6763	375
16	220.5203	221	57	363.3055	363	16	228.7731	229	57	378.9806	379
17	224.9823	225	58	366.9744	367	17	233.4893	233	58	383.5419	384
18	229.4294	229	59	370.6238	371	18	237.9615	238	59	388.1840	388
19	233.6252	234	60	374.5721	375	19	242.3611	242	60	393.0230	393
20	237.7924	238	61	378.4023	378	20	246.4529	246	61	398.1033	398
21	241.5216	242	62	382.3733	382	21	250.3794	250	62	403.4673	403
22	245.4867	245	63	386.5335	387	22	254.4424	254	63	409.0647	409
23	249.2758	249	64	390.6703	391	23	258.4088	258	64	414.9321	415
24	252.9709	253	65	394.8763	395	24	262.2584	262	65	421.5090	422
25	256.4950	256	66	399.2272	399	25	265.9770	266	66	428.6238	429
26	259.9397	260	67	403.7151	404	26	269.5053	270	67	436.2780	436
27	263.3785	263	68	408.4020	408	27	273.0119	273	68	444.8475	445
28	266.8110	267	69	413.2705	413	28	276.4973	276	69	454.6454	455
29	270.2377	270	70	418.3348	418	29	279.9603	280	70	466.1078	466
30	273.6558	274	71	423.8249	424	30	283.4027	283	71	480.0439	480
31	277.0663	277	72	429.5370	430	31	286.8247	287	72	497.8664	498
32	280.4685	280	73	435.7106	436	32	290.2265	290	73	522.8887	523
33	283.8156	284	74	442.6483	443	33	293.6083	294	74	562.3250	562
34	286.8872	287	75	449.9691	450	34	296.9702	297	75	625.1589	600
35	290.0560	290	76	458.4316	458	35	300.3130	300			
36	293.4172	293	77	468.3488	468	36	303.6354	304			
37	296.7666	297	78	479.9549	480	37	306.9390	307			
38	299.8040	300	79	493.7508	494	38	310.2234	310			
39	302.8853	303	80	510.6160	511	39	313.4888	313			
40	306.1800	306	81	535.7637	536	40	316.7353	317			
			82	572.5689	573						
			83	628.5192	600						

Table 3.B.5: 2004 New Form Conversions for English-language Arts Grades 8 and 9

Grade 8						Grade 9					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	0.0007	150	41	321.0829	321	0	0.0007	150	41	326.8010	327
1	51.2548	150	42	324.6554	325	1	56.2560	150	42	330.1582	330
2	93.1616	150	43	328.1813	328	2	99.9494	150	43	333.5015	334
3	117.9735	150	44	331.4443	331	3	123.7898	150	44	336.8307	337
4	135.4897	150	45	334.9087	335	4	141.8010	150	45	340.3008	340
5	149.3575	150	46	338.4330	338	5	155.4262	155	46	343.8889	344
6	160.6055	161	47	341.7485	342	6	166.6665	167	47	347.3016	347
7	170.6093	171	48	345.2881	345	7	176.8377	177	48	350.8787	351
8	179.3322	179	49	349.0223	349	8	185.2687	185	49	354.7132	355
9	187.1626	187	50	352.5738	353	9	193.1311	193	50	358.2769	358
10	194.4657	194	51	356.2024	356	10	200.1932	200	51	361.9236	362
11	200.8661	201	52	360.1962	360	11	207.1431	207	52	365.7755	366
12	207.2230	207	53	364.2835	364	12	212.9846	213	53	369.7951	370
13	212.8276	213	54	368.1189	368	13	218.7788	219	54	373.8875	374
14	218.4865	218	55	372.1573	372	14	224.1526	224	55	378.0437	378
15	223.7380	224	56	376.5144	377	15	229.4236	229	56	382.3669	382
16	228.4841	228	57	380.8541	381	16	234.4230	234	57	386.7409	387
17	233.3451	233	58	385.2941	385	17	238.9838	239	58	391.4518	391
18	237.8200	238	59	390.0257	390	18	243.4303	243	59	396.3856	396
19	242.1524	242	60	394.9293	395	19	247.8549	248	60	401.3623	401
20	246.4667	246	61	400.0021	400	20	252.2589	252	61	406.6608	407
21	250.6214	251	62	405.3711	405	21	256.2295	256	62	412.1166	412
22	254.5787	255	63	411.0604	411	22	260.2801	260	63	417.7821	418
23	258.3746	258	64	417.2990	417	23	264.0504	264	64	424.0707	424
24	262.3704	262	65	423.8693	424	24	268.0260	268	65	430.7477	431
25	266.2254	266	66	430.7700	431	25	271.8060	272	66	438.0224	438
26	270.0225	270	67	438.6146	439	26	275.3912	275	67	446.1557	446
27	273.6089	274	68	447.3272	447	27	278.9522	279	68	455.0901	455
28	277.0883	277	69	457.0601	457	28	282.5000	283	69	465.1781	465
29	280.5522	281	70	468.4423	468	29	286.0325	286	70	476.9510	477
30	284.0021	284	71	482.1653	482	30	289.5511	290	71	491.0784	491
31	287.4384	287	72	499.7832	500	31	293.0563	293	72	508.9505	509
32	290.8609	291	73	523.9247	524	32	296.5481	297	73	534.2578	534
33	294.2697	294	74	564.0926	564	33	299.9634	300	74	574.6670	575
34	297.6649	298	75	633.1989	600	34	303.1055	303	75	639.4489	600
35	301.0466	301				35	306.3729	306			
36	304.4148	304				36	309.8112	310			
37	307.7696	308				37	313.2353	313			
38	311.1111	311				38	316.6467	317			
39	314.4392	314				39	320.0443	320			
40	317.7539	318				40	323.4301	323			

Table 3.B.6: 2004 New Form Conversions for English-language Arts Grades 10 and 11

Grade 10						Grade 11					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	0.4011	150	41	316.6259	317	0	0.0003	150	41	310.7546	311
1	65.0784	150	42	319.7310	320	1	25.9331	150	42	314.5337	315
2	104.2681	150	43	322.8290	323	2	66.7273	150	43	318.2744	318
3	128.7423	150	44	325.9187	326	3	94.0100	150	44	321.8232	322
4	145.4743	150	45	329.0008	329	4	112.9014	150	45	325.3106	325
5	158.3502	158	46	332.1279	332	5	127.7395	150	46	328.9455	329
6	169.1289	169	47	335.4397	335	6	140.4597	150	47	332.7513	333
7	178.4677	178	48	338.7219	339	7	151.1178	151	48	336.6471	337
8	186.7336	187	49	341.9468	342	8	160.3431	160	49	340.4095	340
9	193.8199	194	50	345.2630	345	9	168.8046	169	50	344.3483	344
10	200.3899	200	51	348.6462	349	10	176.3977	176	51	348.1424	348
11	206.5241	207	52	352.2149	352	11	183.4673	183	52	352.1306	352
12	212.2876	212	53	355.5527	356	12	190.1078	190	53	356.3413	356
13	217.7074	218	54	359.0992	359	13	196.5567	197	54	360.5589	361
14	222.6850	223	55	363.0068	363	14	201.9282	202	55	365.1008	365
15	227.3190	227	56	366.7312	367	15	207.4988	207	56	369.5816	370
16	231.8839	232	57	370.5985	371	16	213.0591	213	57	374.3379	374
17	236.4273	236	58	374.7410	375	17	217.7559	218	58	378.7823	379
18	240.8071	241	59	378.9298	379	18	222.7865	223	59	383.7861	384
19	244.7134	245	60	383.5662	384	19	227.5631	228	60	389.2369	389
20	248.6161	249	61	388.3366	388	20	231.9885	232	61	394.5638	395
21	252.5142	253	62	393.1814	393	21	236.3141	236	62	400.3523	400
22	256.1760	256	63	398.5380	399	22	240.6298	241	63	406.6155	407
23	259.8057	260	64	403.9445	404	23	244.9346	245	64	413.1446	413
24	263.1801	263	65	409.8384	410	24	248.9523	249	65	419.9249	420
25	266.5881	267	66	416.4292	416	25	252.8746	253	66	427.5409	428
26	270.0898	270	67	423.5133	424	26	256.7846	257	67	436.0770	436
27	273.3866	273	68	431.6142	432	27	260.4759	260	68	445.2262	445
28	276.5974	277	69	440.6580	441	28	264.3606	264	69	455.8140	456
29	279.8007	280	70	451.1031	451	29	268.0593	268	70	468.1164	468
30	282.9978	283	71	463.9515	464	30	271.7605	272	71	482.7601	483
31	286.1874	286	72	480.2489	480	31	275.7067	276	72	501.9139	502
32	289.3696	289	73	503.1582	503	32	279.2313	279	73	528.6382	529
33	292.5444	293	74	541.3502	541	33	282.7505	283	74	573.7807	574
34	295.5031	296	75	608.7990	600	34	286.2645	286	75	661.7838	600
35	298.4048	298				35	289.7737	290			
36	301.5036	302				36	293.2787	293			
37	304.6478	305				37	296.7800	297			
38	307.7843	308				38	300.2778	300			
39	310.7084	311				39	303.7728	304			
40	313.5363	314				40	307.2653	307			

Table 3.B.7: 2004 New Form Conversions for History-Social Science Grade 8

Grade 8					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	0.0007	150	41	338.6853	339
1	48.3901	150	42	342.6665	343
2	88.3403	150	43	346.3274	346
3	116.9505	150	44	349.8340	350
4	136.7933	150	45	353.4459	353
5	152.4511	152	46	357.4284	357
6	165.2727	165	47	360.9316	361
7	175.9479	176	48	364.7523	365
8	185.6333	186	49	368.7011	369
9	194.4487	194	50	372.6532	373
10	202.4091	202	51	376.5921	377
11	209.6432	210	52	380.5206	381
12	216.3841	216	53	384.7403	385
13	222.6596	223	54	389.1165	389
14	228.5832	229	55	393.5597	394
15	234.3373	234	56	398.3578	398
16	239.8449	240	57	403.2030	403
17	244.9052	245	58	408.0344	408
18	249.6341	250	59	412.9600	413
19	254.3567	254	60	418.1799	418
20	258.9905	259	61	423.8247	424
21	263.3574	263	62	429.8050	430
22	267.5373	268	63	436.0904	436
23	271.7108	272	64	442.6757	443
24	275.8779	276	65	450.0763	450
25	280.0383	280	66	457.8843	458
26	284.1215	284	67	466.3453	466
27	287.9817	288	68	475.9771	476
28	291.8372	292	69	486.9261	487
29	295.8097	296	70	499.7604	500
30	299.4188	299	71	515.0281	515
31	303.0215	303	72	534.4664	534
32	306.6176	307	73	564.0167	564
33	310.2070	310	74	605.7247	600
34	313.7904	314	75	661.2691	600
35	317.3644	317			
36	320.9324	321			
37	324.4931	324			
38	328.0464	328			
39	331.5922	332			
40	335.1302	335			

Table 3.B.8: 2004 New Form Conversions for History-Social Science Grades 10 and 11

Grade 10						Grade 11					
Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score	Raw Score	Scaled Score	Reported Score
0	0.0003	150	41	374.0869	374	0	0.0003	150	41	380.5768	381
1	52.5746	150	42	379.2667	379	1	52.6079	150	42	386.0038	386
2	96.6645	150	43	384.5148	385	2	99.2296	150	43	391.1177	391
3	124.6655	150	44	390.3257	390	3	127.5261	150	44	396.8040	397
4	144.7696	150	45	396.1301	396	4	147.5845	150	45	402.9458	403
5	160.3592	160	46	402.0137	402	5	163.7376	164	46	409.0645	409
6	173.8062	174	47	408.5329	409	6	177.2650	177	47	415.1994	415
7	185.4655	185	48	415.5902	416	7	188.9131	189	48	421.8774	422
8	195.3168	195	49	422.6340	423	8	199.1420	199	49	429.1130	429
9	204.2976	204	50	429.8497	430	9	208.5901	209	50	436.8888	437
10	212.6818	213	51	438.2295	438	10	217.3279	217	51	445.1814	445
11	220.4631	220	52	447.3151	447	11	225.0337	225	52	454.4716	454
12	227.6350	228	53	457.5553	458	12	232.4503	232	53	464.3617	464
13	234.6505	235	54	468.6239	469	13	239.4059	239	54	475.8919	476
14	241.2248	241	55	482.0914	482	14	246.1399	246	55	489.1511	489
15	247.1735	247	56	497.6163	498	15	252.3431	252	56	504.9810	505
16	252.9531	253	57	517.5991	518	16	258.3902	258	57	525.3961	525
17	258.7443	259	58	544.8799	545	17	263.8438	264	58	554.0679	554
18	264.0766	264	59	590.7251	591	18	269.8195	270	59	598.3091	598
19	269.7178	270	60	666.7195	600	19	275.1910	275	60	667.4795	600
20	274.5744	275				20	279.8971	280			
21	279.5976	280				21	285.2283	285			
22	284.7864	285				22	290.4647	290			
23	289.4717	289				23	295.1098	295			
24	294.0201	294				24	299.8718	300			
25	299.1001	299				25	305.0044	305			
26	303.7682	304				26	309.6139	310			
27	308.3266	308				27	314.2107	314			
28	312.8872	313				28	318.7942	319			
29	317.4487	317				29	323.3652	323			
30	322.0113	322				30	327.9199	328			
31	326.5743	327				31	332.4610	332			
32	331.1371	331				32	336.9873	337			
33	335.6991	336				33	341.7407	342			
34	340.2598	340				34	346.6333	347			
35	344.8187	345				35	351.1124	351			
36	349.3753	349				36	355.8172	356			
37	353.9531	354				37	360.6608	361			
38	359.1190	359				38	365.3192	365			
39	363.7083	364				39	370.3598	370			
40	368.9012	369				40	375.3829	375			

Table 3.B.9: 2004 New Form Conversions for Mathematics Grades 2 to 7

Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Raw Score	Scaled Score	Reported Score	Scaled Score								
0	0.0000	150	0.0000	150	2.3408	150	0.0000	150	0.0007	150	0.0007
1	1.6130	150	28.5575	150	72.0076	150	8.4853	150	65.2770	150	48.4128
2	38.6675	150	74.1565	150	110.8897	150	46.7855	150	107.8046	150	88.5874
3	66.3007	150	100.6979	150	134.9203	150	78.5781	150	133.6029	150	116.2032
4	86.4700	150	120.0936	150	151.8461	152	101.3678	150	152.1902	152	135.7906
5	102.7047	150	135.3524	150	164.7785	165	119.3754	150	166.6695	167	151.3188
6	116.0406	150	148.1178	150	175.9193	176	134.4016	150	178.7517	179	164.2970
7	127.7861	150	159.3250	159	185.8213	186	147.3988	150	189.3894	189	175.3104
8	137.9421	150	168.8969	169	194.1971	194	158.9315	159	198.7916	199	185.0421
9	147.3905	150	178.1481	178	201.6443	202	169.1937	169	207.0724	207	194.1741
10	155.8180	156	186.1624	186	208.5853	209	178.6918	179	214.9870	215	202.4884
11	163.6136	164	193.6043	194	214.9970	215	187.5178	188	221.7948	222	209.9717
12	171.3409	171	200.9195	201	221.0361	221	195.6571	196	228.6072	229	216.8721
13	178.2736	178	207.7580	208	226.5746	227	203.1237	203	234.7318	235	223.2440
14	184.7046	185	213.7000	214	231.9597	232	210.5939	211	240.5883	241	229.4063
15	191.0929	191	219.8171	220	236.9873	237	217.9171	218	246.0571	246	235.5163
16	197.4089	197	225.4327	225	241.6915	242	224.1805	224	251.3604	251	241.2969
17	203.3058	203	231.3219	231	246.3121	246	230.8297	231	256.8212	257	246.8068
18	208.7004	209	236.6792	237	250.8215	251	236.9872	237	261.9389	262	251.9669
19	214.0825	214	241.6743	242	254.9740	255	242.9634	243	266.3999	266	256.9686
20	219.3574	219	246.5064	247	259.2148	259	248.5875	249	271.2098	271	261.9796
21	224.3989	224	251.5705	252	263.1557	263	254.4877	254	275.5722	276	266.9983
22	229.4297	229	256.2460	256	267.1743	267	259.9652	260	280.3273	280	271.8576
23	234.4505	234	260.9616	261	271.2206	271	265.3865	265	284.5369	285	276.3711
24	239.4634	239	265.4570	265	275.0143	275	270.6311	271	288.7167	289	280.7748
25	244.4661	244	270.0735	270	278.7193	279	275.5969	276	292.8676	293	285.1810
26	248.9317	249	274.4455	274	282.1240	282	280.7766	281	296.9886	297	289.5866
27	253.8295	254	278.9489	279	285.5455	286	285.7338	286	301.0813	301	293.9915
28	258.2732	258	283.2274	283	289.1081	289	290.9097	291	305.1459	305	298.3949
29	262.6246	263	287.6064	288	292.6712	293	295.6688	296	309.1830	309	302.7955
30	266.9925	267	291.8168	292	296.2023	296	300.5685	301	313.1930	313	306.8697
31	271.8133	272	296.0676	296	299.7021	300	305.7515	306	317.1763	317	311.0118
32	276.2616	276	300.4707	300	303.1713	303	310.4815	310	321.1340	321	315.3707
33	280.6283	281	304.6689	305	306.6109	307	315.1872	315	325.0648	325	319.3787
34	285.4022	285	308.7308	309	310.0216	310	319.8897	320	328.9711	329	323.5192
35	289.8476	290	312.9623	313	313.4042	313	324.5957	325	332.8523	333	327.8807
36	294.1588	294	317.2448	317	316.9084	317	329.4407	329	336.7093	337	332.2323
37	298.4830	298	321.5372	322	320.5590	321	334.6431	335	340.5425	341	336.5105
38	303.2708	303	326.1047	326	323.9010	324	339.3295	339	344.5231	345	340.5067
39	307.6775	308	330.4533	330	327.2124	327	344.0241	344	348.6233	349	344.7065
40	312.4752	312	334.9105	335	330.8951	331	348.8547	349	352.6226	353	349.3250
41	317.3681	317	339.2478	339	334.5857	335	354.1878	354	356.7939	357	353.8083
42	322.2605	322	343.5907	344	338.2508	338	359.3818	359	361.0474	361	358.1929
43	327.1460	327	348.1717	348	341.8914	342	364.2015	364	365.3812	365	362.7593
44	332.0250	332	352.9747	353	345.7638	346	369.5321	370	369.8461	370	367.2976
45	336.9392	337	357.7004	358	349.7974	350	374.8588	375	374.3039	374	371.9473
46	342.2014	342	362.4462	362	353.8127	354	380.3741	380	378.7476	379	376.8669
47	347.6654	348	367.6155	368	357.8042	358	386.3096	386	383.4374	383	381.9698
48	353.2020	353	372.9646	373	361.7810	362	392.2896	392	388.2765	388	387.0031
49	358.9695	359	378.3516	378	366.5494	367	398.2651	398	393.3936	393	392.2627
50	365.0111	365	383.8617	384	371.0082	371	404.4595	404	398.6361	399	397.9925
51	371.0722	371	389.7215	390	375.6185	376	410.9920	411	404.1732	404	403.8590
52	377.4198	377	396.0129	396	380.7202	381	417.8485	418	409.8188	410	409.8338
53	384.3894	384	402.4958	402	386.2891	386	425.0165	425	415.8012	416	416.3781
54	391.9088	392	409.2894	409	391.8559	392	432.5242	433	422.2462	422	423.0182
55	399.6373	400	416.5167	417	397.8323	398	440.7704	441	429.3004	429	430.1564
56	407.9965	408	424.2927	424	404.4536	404	449.7680	450	436.9708	437	438.2844
57	417.2101	417	432.9702	433	411.7035	412	459.4207	459	445.1654	445	446.8754
58	427.3225	427	442.6879	443	419.5961	420	470.1198	470	454.1312	454	456.3037
59	438.9122	439	453.7770	454	428.3338	428	482.2758	482	464.1234	464	467.2613
60	452.4839	452	466.4901	466	438.8032	439	496.4010	496	476.1887	476	479.7444
61	468.9477	469	481.2075	481	451.5814	452	513.2466	513	490.6453	491	494.6854
62	489.6092	490	501.1988	501	468.0306	468	534.3966	534	509.1749	509	513.9406
63	518.8887	519	530.0063	530	491.4895	491	563.9487	564	535.3949	535	540.2260
64	563.5174	564	572.5801	573	525.8806	526	611.8862	600	574.1260	574	582.4346
65	632.1190	600	633.7990	600	575.5792	600	691.2489	600	630.3291	600	648.9990

Table 3.B.10: 2004 New Form Conversions for General Math, Algebra I, Geometry, Algebra II, and High School Math

General Mathematics			Algebra I		Geometry		Algebra II		High School Mathematics	
Raw Score	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score
0	0.0003	150	-68.2504	150	-46.9346	150	-54.8295	150	-87.7995	150
1	47.2550	150	25.1154	150	52.7636	150	22.2645	150	0.4778	150
2	87.3450	150	76.9490	150	99.5288	150	69.0045	150	47.4951	150
3	114.6017	150	107.6510	150	125.8089	150	98.1545	150	75.7878	150
4	133.9669	150	129.9008	150	144.8948	150	119.7072	150	96.0503	150
5	149.3644	150	147.7039	150	160.0721	160	136.0557	150	112.3449	150
6	162.3473	162	162.4748	162	172.6935	173	150.1831	150	125.5159	150
7	173.2748	173	175.2191	175	183.3071	183	162.3930	162	137.2388	150
8	182.8729	183	186.1174	186	193.1758	193	173.2445	173	147.9257	150
9	191.9843	192	196.0409	196	201.9180	202	182.7756	183	156.8998	157
10	200.3468	200	205.2498	205	209.5842	210	191.6074	192	165.5153	166
11	207.8318	208	213.9062	214	216.9227	217	199.7715	200	173.5562	174
12	214.7712	215	221.7828	222	223.9017	224	207.8778	208	181.0322	181
13	221.1501	221	229.3537	229	230.2894	230	214.7098	215	188.1717	188
14	227.1947	227	236.4853	236	236.1365	236	221.5555	222	194.5766	195
15	233.2688	233	243.4748	243	242.1431	242	228.2944	228	200.8510	201
16	239.1116	239	249.6431	250	247.6415	248	234.4724	234	206.8750	207
17	244.6228	245	255.5179	256	254.1918	254	240.4798	240	212.5606	213
18	249.8694	250	261.9021	262	260.8561	261	246.1850	246	218.3280	218
19	254.8003	255	267.8681	268	267.0042	267	252.1376	252	223.6523	224
20	259.7445	260	273.0551	273	273.0387	273	257.3732	257	228.5427	229
21	264.7002	265	278.6889	279	278.8431	279	262.4822	262	233.5050	234
22	269.6658	270	283.7848	284	284.4061	284	267.9811	268	238.6571	239
23	274.2598	274	289.3910	289	289.8390	290	273.1220	273	243.3096	243
24	278.6189	279	294.4143	294	295.2855	295	277.9280	278	248.1826	248
25	282.9815	283	299.3438	299	300.2795	300	282.7306	283	252.7167	253
26	287.3479	287	304.2500	304	305.2299	305	287.5290	288	257.5078	258
27	291.7170	292	309.1350	309	310.3326	310	292.3226	292	261.9565	262
28	296.0876	296	313.9994	314	315.1484	315	297.1109	297	266.2084	266
29	300.4585	300	318.8441	319	319.8450	320	301.8935	302	270.8443	271
30	304.8289	305	323.6699	324	324.6996	325	306.6700	307	275.2194	275
31	308.6265	309	328.4778	328	329.2028	329	310.8704	311	279.3635	279
32	312.9638	313	333.2679	333	333.9197	334	315.5458	316	283.8142	284
33	317.3087	317	338.0417	338	338.1852	338	320.3020	320	288.1757	288
34	321.0856	321	342.7997	343	342.8149	343	325.0508	325	292.4866	292
35	325.4394	325	347.5427	348	347.3402	347	329.7919	330	296.8680	297
36	329.7876	330	352.2715	352	351.7641	352	334.5250	335	301.0298	301
37	334.1293	334	356.9867	357	356.1973	356	339.2499	339	305.5673	306
38	338.3405	338	362.1221	362	360.8105	361	343.9664	344	310.0772	310
39	342.1907	342	367.0804	367	365.4666	365	348.6742	349	314.5611	315
40	346.6675	347	371.7592	372	370.0234	370	353.3730	353	319.0205	319
41	351.4183	351	376.7623	377	374.4852	374	358.1540	358	323.4569	323
42	355.7176	356	382.0849	382	378.9592	379	363.3999	363	327.8701	328
43	360.2071	360	387.1367	387	383.7054	384	368.1847	368	332.6176	333
44	364.8868	365	392.2267	392	388.3673	388	373.5121	374	337.5411	338
45	369.3767	369	397.9968	398	392.9376	393	378.8284	379	342.4453	342
46	374.2408	374	403.4277	403	397.6047	398	384.2670	384	347.3313	347
47	379.3267	379	409.2613	409	402.4863	402	390.0845	390	352.2523	352
48	384.5273	385	414.6551	415	407.5749	408	395.6475	396	357.6505	358
49	389.5922	390	421.2185	421	412.8968	413	402.0937	402	363.0360	363
50	395.2435	395	427.1355	427	418.3244	418	408.1514	408	368.8340	369
51	401.2317	401	433.6795	434	423.7414	424	414.8490	415	374.7376	375
52	407.1999	407	440.8307	441	429.4686	429	422.0493	422	380.8914	381
53	413.6171	414	448.5887	449	435.6861	436	429.3648	429	387.4945	387
54	420.5017	421	456.4559	456	442.2428	442	437.3102	437	394.5506	395
55	427.4328	427	464.7713	465	449.0237	449	445.8815	446	402.0649	402
56	435.4973	435	473.6924	474	456.1341	456	455.1849	455	410.1320	410
57	444.2908	444	483.5894	484	463.8676	464	465.7414	466	418.6787	419
58	453.5811	454	494.7009	495	472.7439	473	477.5578	478	428.4842	428
59	464.5275	465	507.3013	507	482.5680	483	490.8425	491	439.7389	440
60	477.1051	477	521.7320	522	493.3847	493	507.3189	507	452.5023	453
61	491.8838	492	538.8926	539	505.6927	506	527.8336	528	467.5085	468
62	511.1769	511	561.3431	561	521.1988	521	556.4000	556	486.7307	487
63	537.0699	537	592.0178	592	543.6790	544	603.4137	600	513.4636	513
64	579.7464	580	640.8885	600	574.9524	575	681.5695	600	556.9415	557
65	648.9995	600	721.0744	600	645.5992	600			630.7795	600

Table 3.B.11: 2004 New Form Conversions for Integrated Mathematics I, II, and III

Raw Score	Integrated Mathematics I		Integrated Mathematics II		Integrated Mathematics III	
	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score
0	-77.6988	150	-50.7082	150	-100.7238	150
1	11.1207	150	48.8505	150	-9.3461	150
2	63.0562	150	98.8708	150	46.1159	150
3	95.0557	150	127.6613	150	80.9804	150
4	117.9693	150	148.5047	150	105.8421	150
5	136.1803	150	165.2953	165	125.1892	150
6	151.1841	151	179.2301	179	141.4204	150
7	164.0195	164	191.2019	191	155.5121	156
8	175.2913	175	201.9020	202	167.8239	168
9	185.4523	185	211.3086	211	179.1067	179
10	195.0118	195	219.8900	220	189.2618	189
11	203.7613	204	228.2782	228	198.3822	198
12	212.0065	212	235.9775	236	207.4193	207
13	219.8474	220	243.2220	243	215.8036	216
14	227.0414	227	249.7457	250	223.6027	224
15	233.9979	234	256.1900	256	231.0474	231
16	240.4910	240	262.5573	263	238.1868	238
17	247.0414	247	268.2128	268	245.1232	245
18	253.3312	253	273.6891	274	251.8275	252
19	259.1917	259	279.3865	279	258.4193	258
20	265.1393	265	285.2990	285	264.3543	264
21	270.9250	271	291.3327	291	270.2281	270
22	276.4984	276	297.4140	297	276.0998	276
23	282.1740	282	303.4898	303	281.9703	282
24	287.3913	287	309.5188	310	287.8346	288
25	292.5827	293	315.4020	315	293.6938	294
26	297.7500	298	320.7898	321	299.5016	300
27	302.8922	303	326.4052	326	304.8853	305
28	308.0089	308	332.0609	332	310.3930	310
29	313.0994	313	337.6123	338	315.6662	316
30	318.1633	318	343.0535	343	321.2393	321
31	323.2001	323	348.3870	348	326.4076	326
32	328.2096	328	353.6205	354	332.1168	332
33	333.1912	333	358.7534	359	337.7803	338
34	338.2673	338	363.9767	364	342.8529	343
35	343.5582	344	369.3171	369	348.4091	348
36	348.6648	349	374.4223	374	353.5284	354
37	353.5310	354	379.8011	380	359.2189	359
38	358.4642	358	385.1332	385	364.8864	365
39	363.7559	364	390.4492	390	370.5300	371
40	369.1517	369	396.1942	396	376.1937	376
41	374.1730	374	401.8505	402	382.0843	382
42	379.8280	380	407.4916	407	388.1377	388
43	385.3724	385	413.3291	413	394.0435	394
44	390.6902	391	419.2304	419	400.3973	400
45	396.3968	396	425.0004	425	406.9624	407
46	402.2723	402	431.0953	431	413.6390	414
47	408.1252	408	437.6359	438	420.2505	420
48	414.2466	414	444.1725	444	427.4489	427
49	420.8638	421	450.8171	451	434.7966	435
50	427.6151	428	457.6440	458	442.2756	442
51	434.2433	434	464.7717	465	450.5219	451
52	441.6424	442	472.4123	472	458.9906	459
53	449.1025	449	480.3695	480	468.1298	468
54	457.5745	458	488.7420	489	477.8566	478
55	466.1336	466	497.5515	498	488.4461	488
56	475.7314	476	507.1544	507	499.8602	500
57	486.2022	486	517.4646	517	512.5355	513
58	497.4368	497	528.3523	528	527.0170	527
59	510.0624	510	540.5306	541	543.7365	544
60	524.7060	525	554.2844	554	563.4033	563
61	542.8859	543	570.4854	570	589.4973	589
62	565.7147	566	592.6094	593	626.9136	600
63	598.1156	598	621.0827	600	680.7042	600
64	645.8195	600	655.4994	600	753.3237	600
65	714.6990	600	699.9591	600		

Table 3.B.12: 2004 New Form Conversions for Biology, Chemistry, Earth Science, and Physics

Raw Score	Biology		Chemistry		Earth Science		Physics	
	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score
0	0.0007	150	51.9904	150	51.0104	150	51.4129	150
1	103.9739	150	114.4734	150	114.2365	150	111.7482	150
2	143.7044	150	150.0812	150	149.6444	150	146.9310	150
3	166.1223	166	170.9611	171	170.9344	171	167.8856	168
4	182.4821	182	186.5145	187	186.3367	186	182.9840	183
5	195.3621	195	198.4431	198	198.7023	199	195.1352	195
6	205.7544	206	208.7003	209	208.7607	209	205.3193	205
7	214.8249	215	217.3075	217	217.4162	217	214.0000	214
8	222.9879	223	224.9733	225	225.1570	225	221.3423	221
9	230.5264	231	232.1149	232	232.1234	232	228.5671	229
10	237.3136	237	238.4481	238	238.5157	239	234.8567	235
11	243.4356	243	244.2381	244	244.7644	245	240.6510	241
12	249.3639	249	249.7887	250	250.0877	250	246.0038	246
13	254.7531	255	255.0137	255	255.2687	255	251.3010	251
14	259.7111	260	259.7105	260	260.4172	260	256.1581	256
15	264.6760	265	264.2163	264	265.0116	265	260.9654	261
16	269.3822	269	268.7119	269	269.1949	269	265.3308	265
17	273.8613	274	273.1964	273	273.7191	274	269.6944	270
18	278.3434	278	277.3137	277	277.8125	278	274.0176	274
19	282.5709	283	281.2834	281	281.8955	282	277.8934	278
20	286.5617	287	285.2451	285	285.8146	286	281.7686	282
21	290.5554	291	289.1992	289	289.5402	290	285.6433	286
22	294.5516	295	292.7690	293	293.4045	293	289.5182	290
23	298.2943	298	296.5960	297	296.9396	297	293.3702	293
24	302.0514	302	300.1475	300	300.6819	301	296.7802	297
25	305.7979	306	303.5829	304	304.4716	304	300.6396	301
26	309.3029	309	307.3946	307	307.9780	308	304.0316	304
27	313.0685	313	310.9273	311	311.4743	311	307.4351	307
28	316.8191	317	314.3464	314	314.9605	315	311.3058	311
29	320.3303	320	317.7605	318	318.4364	318	314.7008	315
30	323.8436	324	321.1695	321	321.9017	322	318.0970	318
31	327.3591	327	324.5737	325	325.3563	325	321.4944	321
32	330.8769	331	327.9720	328	328.7999	329	324.8933	325
33	334.3970	334	331.7289	332	332.2324	332	328.2935	328
34	337.9196	338	335.2479	335	335.6535	336	332.1785	332
35	341.7223	342	338.6336	339	339.0631	339	335.5859	336
36	345.4720	345	342.3568	342	342.7266	343	338.9905	339
37	349.0020	349	345.8814	346	346.3362	346	342.8764	343
38	352.8252	353	349.5797	350	349.9605	350	346.2912	346
39	356.5694	357	353.4301	353	353.8002	354	350.1779	350
40	360.4100	360	357.2748	357	357.6274	358	354.0767	354
41	364.4570	364	361.1148	361	361.4380	361	357.9757	358
42	368.5074	369	365.2375	365	365.4335	365	361.8760	362
43	372.8813	373	369.2706	369	369.6850	370	366.2560	366
44	377.1183	377	373.6256	374	373.9174	374	370.6466	371
45	381.5138	382	378.1500	378	378.2739	378	375.0384	375
46	386.4288	386	382.6828	383	382.9348	383	379.4312	379
47	391.5130	392	387.6716	388	387.6648	388	384.3051	384
48	396.6024	397	392.9094	393	392.8051	393	389.6694	390
49	402.0655	402	398.3356	398	398.3476	398	395.0409	395
50	408.0524	408	404.2151	404	404.2852	404	400.8957	401
51	414.5646	415	410.5461	411	410.6422	411	407.2397	407
52	421.6029	422	417.4761	417	417.3816	417	414.0723	414
53	429.5782	430	425.1803	425	425.2363	425	421.8770	422
54	438.1884	438	433.6759	434	433.9256	434	430.6640	431
55	448.6300	449	443.8810	444	444.2028	444	440.4240	440
56	460.7296	461	455.7488	456	456.3717	456	452.6205	453
57	476.2532	476	471.0700	471	471.8189	472	467.7347	468
58	497.8322	498	492.4729	492	493.9171	494	488.2373	488
59	533.5246	534	527.3359	527	527.7002	528	523.3489	523
60	595.4996	600	584.6196	600	579.7196	600	582.7871	600

Table 3.B.13: 2004 New Form Conversions for Integrated Science I, II, III, and IV

Raw Score	Integrated Science I		Integrated Science II		Integrated Science III		Integrated Science IV	
	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score	Scaled Score	Reported Score
0	0.0000	150	0.0000	150	0.0000	150	0.0000	150
1	109.1810	150	111.9807	150	124.4135	150	109.1199	150
2	144.5547	150	147.4765	150	159.6439	160	144.4898	150
3	165.7431	166	168.7501	169	180.7606	181	165.6808	166
4	181.1280	181	184.2030	184	196.1011	196	181.0700	181
5	193.3324	193	196.4651	196	208.2749	208	193.2793	193
6	203.5332	204	206.7159	207	218.4539	218	203.4851	203
7	212.3520	212	215.5794	216	227.2561	227	212.3088	212
8	220.1639	220	223.4308	223	235.0559	235	220.1251	220
9	227.2108	227	230.5134	231	242.0926	242	227.1760	227
10	233.6562	234	236.9919	237	248.5297	249	233.6255	234
11	239.6204	240	242.9863	243	254.4857	254	239.5933	240
12	245.9481	246	248.5843	249	260.0489	260	245.1666	245
13	251.8422	252	253.8515	254	265.2839	265	250.4109	250
14	257.3653	257	258.8417	259	270.2459	270	255.3801	255
15	262.5642	263	263.5975	264	275.6031	276	260.1157	260
16	267.4798	267	268.1516	268	279.5018	280	264.6513	265
17	272.1433	272	273.0658	273	283.8601	284	269.0157	269
18	276.5823	277	277.7470	278	288.0704	288	272.7448	273
19	279.9479	280	281.3215	281	292.1538	292	276.4289	276
20	283.2889	283	284.8651	285	296.1256	296	280.8930	281
21	286.6160	287	288.7601	289	300.0000	300	285.1802	285
22	289.9446	290	292.5753	293	303.7958	304	288.9818	289
23	293.2776	293	296.3178	296	307.5188	308	292.7109	293
24	296.6275	297	300.0000	300	311.1834	311	296.3804	296
25	300.0000	300	303.6323	304	314.7963	315	300.0000	300
26	303.5779	304	307.2228	307	318.3698	318	303.5786	304
27	307.1252	307	310.7822	311	321.9125	322	307.1265	307
28	310.6470	311	314.3163	314	325.4279	325	310.6489	311
29	314.1528	314	317.8333	318	328.9285	329	314.1550	314
30	317.6504	318	321.3421	321	332.4194	332	317.6529	318
31	321.1440	321	324.8472	325	335.9068	336	321.1470	321
32	324.6465	325	328.3609	328	339.4027	339	324.6498	325
33	328.1621	328	331.8856	332	342.9116	343	328.1647	328
34	331.6982	332	335.4324	335	346.4404	346	331.7009	332
35	335.2657	335	339.0096	339	350.0000	350	335.2678	335
36	338.8689	339	342.6229	343	353.5948	354	338.8708	339
37	342.5203	343	346.2842	346	357.2378	357	342.5216	343
38	346.2261	346	350.0000	350	360.9343	361	346.2270	346
39	350.0000	350	353.7835	354	364.6987	365	350.0000	350
40	353.8568	354	357.6497	358	368.5452	369	353.8557	354
41	357.8024	358	361.6050	362	372.4800	372	357.8002	358
42	361.8542	362	365.6671	366	376.1340	376	361.8510	362
43	365.5817	366	369.8549	370	379.8301	380	366.0275	366
44	369.3658	369	374.1854	374	383.5821	384	370.3467	370
45	373.2263	373	378.6848	379	387.4071	387	374.8340	375
46	377.1856	377	382.8046	383	391.3279	391	379.5174	380
47	381.2673	381	387.0534	387	396.5889	397	384.4276	384
48	385.5055	386	391.4678	391	402.2099	402	390.2855	390
49	389.9411	390	397.5539	398	408.2495	408	396.5764	397
50	396.2243	396	404.1343	404	414.7807	415	401.7957	402
51	403.0790	403	411.3122	411	421.9037	422	407.3746	407
52	410.6310	411	418.2936	418	428.8406	429	414.3370	414
53	419.0567	419	426.0325	426	436.5301	437	422.0553	422
54	428.6203	429	434.7786	435	445.2191	445	430.7775	431
55	439.7180	440	444.8990	445	455.2729	455	440.8707	441
56	453.0146	453	457.0225	457	467.3139	467	452.9607	453
57	468.2777	468	472.3174	472	482.5039	483	468.2133	468
58	489.3381	489	493.4251	493	503.4600	503	489.2618	489
59	524.5749	525	528.7422	529	538.5185	539	524.4783	524
60	1308.0542	600	1315.2043	600	1319.9362	600	1308.5574	600

Table 3.B.14: 2004 New Form Conversion for Grade 5 Science

Grade 5 Science		
Raw Score	Scaled Score	Reported Score
0	47.3183	150
1	80.1096	150
2	121.5283	150
3	146.3668	150
4	164.4175	164
5	178.7486	179
6	190.7324	191
7	201.1015	201
8	210.2884	210
9	218.5755	219
10	226.1592	226
11	233.1776	233
12	239.7347	240
13	245.9054	246
14	251.7532	252
15	257.3241	257
16	262.6586	263
17	267.7970	268
18	272.7566	273
19	277.5721	278
20	282.2491	282
21	286.8224	287
22	291.2918	291
23	295.6805	296
24	300.0000	300
25	304.2561	304
26	308.4717	308
27	312.6413	313
28	316.7878	317
29	320.9170	321
30	325.0288	325
31	329.1465	329
32	333.2641	333
33	337.3991	337
34	341.5629	342
35	345.7612	346
36	350.0000	350
37	354.2964	354
38	358.6621	359
39	363.1027	363
40	367.6355	368
41	372.2780	372
42	377.0473	377
43	381.9666	382
44	387.0473	387
45	392.3299	392
46	397.8374	398
47	403.6159	404
48	409.7116	410
49	416.1880	416
50	423.1142	423
51	430.6055	431
52	438.7832	439
53	447.8547	448
54	458.0969	458
55	469.9481	470
56	484.1292	484
57	502.0185	502
58	526.6724	527
59	567.9008	568
60	624.0196	600

Chapter 4: Item-Level Analyses

This chapter summarizes the item-level statistics obtained for the California Standards Tests (CSTs) program administered during spring of 2004. This includes ten grade-specific ELA tests for grades 2 to 11, three grade-specific History tests for grades 8, 10 and 11, six grade-specific Mathematics tests for grades 2 to 7 as well as eight end-of course tests including three integrated tests, and eight science end-of-course tests including four integrated tests, and lastly, this includes one grade-specific science test for grade 5. The integrated Math and Science tests consisted of questions that were also administered in content-specific tests. Each test was composed of dichotomously scored Multiple Choice (MC) questions except for ELA where a polytomously scored writing task was also presented as part of the grade 4 and 7 tests.

The CSTs also included six un-scored field-test items, varying numbers of scored linking items, and various blocks of reading list items. These items were presented in 20 to 25 different forms (or versions) in most of the ELA and Math tests, although two Math tests had fewer and two ELA test had higher number of versions. The subject areas of History and Science had field-test items presented in 30 forms for each test; the same scenario was true for Algebra II test. Thus, largest numbers of items (180 items) were field-tested for these tests. The General Math, Integrated Math and Integrated Science were administered in single versions.

As described in Chapter 1, different CST analyses were done at different times in the testing process and involved different proportions of the full CST data. Most of the information presented in this chapter is based on the sample of student data that was used in the final item analyses (FIA), which comprised about 25 to 35 percent of the full CST data. However, the classical item-analysis statistics reported in this chapter were calculated on the data file that was used for the August 15 reporting (called the P2 file). In addition, item-level analyses for the end-of-course Math tests were limited to the students in targeted grades (i.e., grade 8 for Algebra I, grade 9 for Geometry, grade 10 for Algebra II, and grade 11 for High School Summative Math). For ease of comparison, the results of some classical item analyses for the end-of-course Math tests are presented for both sets of data.

Table 4.1 summarizes information about the test forms⁴ and students included in the item level analyses, including the numbers of test versions, operational items, field-test items and the approximate number of students taking operational and field-test items in the full P2 and FIA samples. Since there was only one form for the integrated tests, the counts for the operational and field test sections are the same.

⁴ A form was counted as a field test form if it contains one or more field test items

Table 4.1: Summary of items and forms presented in 2004 CSTs

Subject	Test	Operational				Field Test			
		# Items	# Examinees FIA Sample	# Examinees Total (P2)	# Forms	# Items	# Examinees FIA Sample	# Examinees Total (P2)	
<i>English Language Arts</i>	2	64	157,420	472,591	20	95	6,952-33,384	22,356-115,451	
	3	65	160,782	480,611	20	120	4,779-6,676	15,919-19,300	
	4	75	155,723	481,030	20	119	5,436-11,005	16,184-33,016	
	5	75	157,484	482,859	20	113	5,491-11,342	16,318-33,734	
	6	75	164,022	480,290	25	150	4,900-5,106	14,130-14,648	
	7	75	172,023	484,682	25	148	5,138-10,409	14,299-29,064	
	8	75	171,683	487,417	25	150	5,130-5,433	14,334-15,263	
	9	75	107,748	485,694	33	149	3,178-29,349	13,909-125,558	
	10	75	101,706	446,091	33	149	3,005-27,450	12,850-115,892	
	11	75	89,715	384,229	25	148	2,801-5,855	11,696-23,956	
<i>History</i>	8	75	170,115	482,505	30	180	5,090-20,781	14,205-57,864	
	10	60	100,176	439,011	30	180	2,956-12,070	12,639-51,034	
	11	60	88,312	377,819	30	180	2,764-5,726	11,506-23,344	
<i>Mathematics</i>	2	65	158,202	475,179	18	107	6,987-9,805	22,511-24,914	
	3	65	161,590	483,304	20	120	4,799-30,243	16,002-85,037	
	4	65	157,386	487,766	20	120	5,501-27,977	16,365-84,276	
	5	65	158,025	484,724	20	120	5,504-28,225	16,377-83,668	
	6	65	164,208	480,879	25	150	4,898-24,875	14,134-71,112	
	7	65	172,966	488,074	25	150	5,162-31,201	14,418-87,071	
	General Math	65	128,746	406,992	1	6	128,746	406,992	
	Algebra I	65	69,949	603,559	25	150	2,698-3,144	23,061-29,257	
	Geometry	65	21,579	298,372	25	150	766-1,980	10,599-32,873	
	Algebra II	64	19,590	180,865	30	180	578-701	5,598-6,425	
	High School Math	65	16,744	80,062	14	84	1,152-1,233	5,590-6,132	
	Integrated Math I	65	259	9,401	1	6	259	9,401	
	Integrated Math II	65	317	7,875	1	6	317	7,875	
	Integrated Math III	64	244	4,408	1	6	244	4,408	
<i>Science</i>	Grade 5 Science	60	157,852	483,931	24	144	5,496-28,208	16,348-83,530	
	Biology	60	93,581	394,912	30	180	2,664-10,957	10,837-54,218	
	Chemistry	60	40,125	180,379	30	180	1,232-1,412	5,592-6,332	
	Earth Science	60	35,139	133,741	30	180	1,052-1,660	3,978-6,317	
	Physics	60	11,150	52,103	30	180	323-517	1,532-2,152	
	Integrated Science I	60	26,517	100,861	1	6	26,517	100,861	
	Integrated Science II	60	4,549	24,461	1	6	4,549	24,461	
	Integrated Science III	60	817	5,852	1	6	817	5,852	
	Integrated Science IV	60	909	1,576	1	6	909	1,576	

The statistics presented in this chapter are divided into three sections as follows:

1. Item level statistics from classical and IRT analyses, including item proportion correct (p-plus), point-biserial correlations (R-Bis) and IRT difficulties (b-values) for each operational item. These statistics are presented in Appendix 4.A
2. Summaries of Differential Item Functioning (DIF) classifications for operational and field-test items and for those items flagged as exhibiting significant DIF. These statistics are presented in Appendix 4.B
3. Summaries of Rasch model item difficulty statistics (B-values) for operational and field-test items, and summaries of item classifications based on the fit of the Rasch model to the data, reported in letter categories of A, B, C, D, and F (IRT flag) for operational and field-test items. These statistics are presented in Appendix 4.C.

Item Analyses

This section describes the overall and item-by-item proportion correct indices as well as the point-biserial correlation indices for the operational items. The point-biserial correlation is a special case of the Pearson product-moment correlation used to measure the relationship between two variables, one dichotomous and one continuously measured. In this case, the item score (right/wrong) and the total test score. The well-known formula for the Pearson product-moment correlation is:

$$R_{it} = \frac{Cov(i, t)}{\sigma_{xi} \sigma_t}$$

(1)

where,

$Cov(i, t)$ is the Covariance between an item i and total score t

σ_{xi} is the standard deviation for an item i

σ_t is the standard deviation for t

Table 4.2 presents the overall indices for each test in terms of both mean and median over items. Detailed tables are provided in Appendix 4.A.

The data in Table 4.2 indicate that most of the CSTs were medium difficulty tests (with average p-values around 0.5 to 0.6). The tests that were most difficult for these students (p-value <= 0.50) were Algebra I, General Math, Geometry, Algebra II, History-Social Science, Grade 5 Science, Earth Science, and the integrated Math and Science tests. The tests that were easiest for California students were Mathematics administered at grades 2, 3, and 4 as well as High School Summative Math (p-value >= 0.63). The subject area of Mathematics had large variation in the level of difficulty of various tests, the grade 2 Mathematics tests was the easiest (p-value = 0.71) and Integrated Math I test proved to be the most difficult test (p-value = 0.35). The difficulty level of Algebra I, Geometry and Algebra II was much lower when the analyses were performed

on the examinees specific to the corresponding grades (i.e. grade 8 examinees for Algebra I, grade 9 examinees for Geometry, grade 10 examinees for Algebra II).

The average item-total correlations indicated levels of item discrimination that were similar to expectations. This index was greater than or equal to 0.40 for 17 out of 36 tests and was between 0.35 and 0.39 for 10 tests. The integrated Math and Science tests exhibited lower item-total correlation in general while grades 2, 3, 4 and 5 exhibited higher correlations of greater than or equal to 0.42 for both ELA and Math tests. The point-biserial correlations for items appearing in the integrated Math and Science tests were much lower compared to the point-biserials obtained for these items when administered in the content-specific tests. This is likely due to the lower scores and lower variability in the student samples taking the integrated tests compared with those taking the content-specific tests.

A one-parameter Item Response Theory (IRT) model has been used to determine a set item difficulties that are on a common scale. These b-values show the relative difficulty of items within a test. Unlike p-values, b-values are on unique scales for each test and are sample independent. The latter characteristic allows for comparisons across samples. The form of the IRT model used is presented below.

$$\Pr ob = \frac{1}{1 + \exp^{[-(\theta - b_i)]}}$$

This shows the probability of a correct response to an item and is monotonically increasing with ability. The inflection point of this curve is taken as the b-value.

The item-by-item values for the indices are presented in Tables 4.A.1 to 4.A.6 in Appendix 4.A.

Table 4.2: Average (and Median) Proportion Correct and Point R-Biserial

Subject	Test	Average		Median	
		P+	R-Bis	P+	R-Bis
<i>English Language Arts</i>	2	0.59	0.45	0.58	0.46
	3	0.60	0.43	0.60	0.42
	4	0.57	0.42	0.57	0.44
	5	0.59	0.42	0.58	0.43
	6	0.57	0.40	0.58	0.41
	7	0.57	0.41	0.59	0.42
	8	0.56	0.38	0.58	0.39
	9	0.55	0.40	0.56	0.42
	10	0.58	0.43	0.57	0.45
	11	0.57	0.41	0.57	0.41
<hr/>					
<i>History</i>	8	0.47	0.36	0.46	0.38
	10	0.48	0.39	0.48	0.40
	11	0.49	0.38	0.49	0.39
<hr/>					
<i>Mathematics</i>	2	0.71	0.43	0.72	0.44
	3	0.64	0.45	0.64	0.46
	4	0.63	0.46	0.63	0.46
	5	0.56	0.42	0.55	0.42
	6	0.53	0.42	0.52	0.43
	7	0.53	0.41	0.54	0.41
	General Math	0.47	0.35	0.45	0.36
	Algebra I	0.41 (*0.48)	0.33 (*0.38)	0.38 (*0.44)	0.32 (*0.38)
	Geometry	0.44 (*0.53)	0.36 (*0.38)	0.44 (*0.54)	0.35 (*0.38)
	Algebra II	0.49 (*0.54)	0.37 (*0.37)	0.49 (*0.54)	0.37 (*0.37)
	High School Math	0.66 (*0.64)	0.42 (*0.41)	0.64 (*0.63)	0.43 (*0.42)
	Integrated Math I	0.35	0.27	0.34	0.29
	Integrated Math II	0.39	0.31	0.37	0.31
	Integrated Math III	0.47	0.34	0.47	0.36
<hr/>					
<i>Science</i>	Grade 5 Science	0.47	0.33	0.48	0.33
	Biology	0.52	0.38	0.52	0.39
	Chemistry	0.51	0.38	0.50	0.38
	Earth Science	0.47	0.37	0.47	0.40
	Physics	0.52	0.41	0.52	0.42
	Integrated Science I	0.39	0.29	0.38	0.30
	Integrated Science II	0.40	0.31	0.41	0.29
	Integrated Science III	0.37	0.27	0.35	0.27
	Integrated Science IV	0.43	0.29	0.42	0.33

*Grade Specific

DIF Analyses

Differential Item Functioning Analyses were performed on all operational items and all field test items for which sufficient student samples were available. The sample size requirements for the field test DIF analyses were 100 in the focal group and 400 in the combined focal and reference groups. These sample sizes were based on standard operating procedures with respect to DIF analyses at ETS. The DIF analyses utilized the Mantel-Haenszel DIF statistic (Holland & Thayer, 1985). This statistic is based on the estimate of constant odds ratio and is described as:

$$MH\ D - DIF = -2.35 \ln [\alpha_{MH}] \quad (2)$$

The α_{MH} is the constant odds ratio taken from Dorans and Holland (1993, equation 7) and computed as:

$$\alpha_{MH} = \frac{\left(\sum_m R_{rm} \frac{W_{fm}}{N_{tm}} \right)}{\left(\sum_m R_{fm} \frac{W_{rm}}{N_{tm}} \right)} \quad (3)$$

where,

R = number right,

W = number wrong,

N = total in:

_{fm} = focal group at ability level m,

_{rm} = reference group at ability level m, and

_{tm} = total group at ability level m.

Items analyzed for DIF at ETS are classified into one of three categories, A, B, or C. Category A contains items with negligible DIF, Category B contains items with slight to moderate DIF, and Category C contains items with moderate to large values of DIF. These categories have been used by all ETS testing programs for more than 12 years. The definitions of the categories based on evaluations of the item-level MH D-DIF statistics is as follows:

DIF Category	Definition
A (negligible)	MH D-DIF not significantly different from zero, or has an absolute value less than one.
B (moderate)	MH D-DIF is significantly different from zero, and is either 1) less than 1.5, or 2) not significantly different from one.
C (large)	MH D-DIF is significantly different from one, and has an absolute value greater than 1.5.

The groups studied for DIF were based on gender, ethnicity and level of English proficiency⁵. The results of the DIF analyses are presented in Appendix 4.B. Table 4.B.1 represents the operational items exhibiting significant negative DIF. Table 4.B.2 represents the same results for the field test items. Test developers have been instructed to avoid selecting field-test items flagged as having shown DIF that disadvantages a focal group (C- DIF) for future operational test forms unless their inclusion is deemed essential to meeting test specifications.

Tables 4.B.3 to 4.B.38 summarize the DIF category classifications for operational items in each test based on the A, B, or C classifications. In these tables, classifications of B- or C- indicate DIF against a focal group and classifications of B+ and C+ indicate DIF in favor of a focal group. The last two columns of each table summarize the numbers of questions classified as C- for one or more comparisons. Tables 4.B.39 to 4.B.74, summarize the DIF category classifications for the field-test items. Both sets of tables are presented for all 36 CSTs.

As shown in these tables, the numbers of items with C- DIF were higher for ELA and Math; 12 items were flagged for ELA and 8 items were flagged for Math. However, the items flagged for these tests differed in terms of the focal groups. In the case of ELA, most flagged items exhibited C- DIF against the Asian groups; whereas, for Mathematics, all items were flagged for having C- DIF against English learners. Only two of the Math items exhibiting C-DIF were also flagged across a range of focal groups. Out of eight Math items that were flagged, three items were from the Geometry test. In history, a single item was flagged for having DIF against females. In Science, five items were flagged for C-DIF out of which three items belonged to the Integrated Science CSTs. For the Science tests three out of five items were flagged for showing DIF against females.

Generally, a lower percentage of field test items were flagged for C- DIF. However, for some Mathematics tests the percentage was much higher. For grade 2 Math, 7% of the field-test items were flagged for C-DIF while for grade 3, 6% of the field-test items were flagged for having C- DIF. Out of the 27 Math items that were flagged for having C-DIF, 82% were flagged against a single comparison. About 33 percent of these were flagged for C-DIF against females, while 37 percent were flagged for C-DIF against English learners. For ELA, 71% of the flagged items exhibited DIF against Asian groups, while 24% exhibited DIF against females. For the History tests, 7 items were flagged for having C-DIF out of which 6 items belonged to the grade 11 History test. Out of the 7 flagged items in History, 4 items (57% out of 7) exhibited DIF against African Americans. In the case of the Science tests, 6 items were flagged for having C-DIF out of which 4 items belonged to Chemistry. No DIF analyses were conducted for the field test items in Integrated Math and Science because these items were field-tested in other content-specific tests and were included in the integrated tests only as placeholders.

⁵ Analyses of English learners on the English-Language Arts test were not carried out because differential performance due to language difficulties of non-native speakers does not indicate that an item is unfair or biased.

IRT Analyses

The results of the IRT analyses are presented in Appendix 4.C. Tables 4.C.1 to 4.C.32 present summary univariate statistics (mean, standard deviation, minimum and maximum) for the IRT B-values. These statistics are listed for the overall test and are also presented by reporting clusters for each test. At the end of each table a line has been added for the field-test items. The tables are presented for all grade-specific and end-of-course tests. No IRT statistics are presented for the integrated Math and Science tests because these tests are comprised of items that are administered in the content-specific tests.

As shown in the tables, the overall difficulty level of the field test items was higher than the operational items for all English-language Arts tests. For History-Social Sciences, operational items also appeared to be significantly easier than the field-test items with differences in average b-values of 0.53, 0.52 and 0.51 occurring for grades 8, 10 and 11 respectively. A similar scenario was observed for all Science tests, that is, the overall difficulty level of the field test items was higher than the operational items. For Mathematics tests, the overall difficulty level of the field test items was generally higher than the operational items for all tests with the exception of the Mathematics grades 2 and 3 tests.

For some grade-specific operational tests, some reporting clusters were consistently easy across all grades. For the majority of the ELA tests, the reporting clusters of “Word Analysis and Vocabulary” and “Written and Oral Conventions” were considerably easier than the remainder of the test. For most of the Math tests administered at grades 2 to 6, the content related to “Algebra and Functions” and “Statistics, Data Analysis and Probability” were easier than other areas of the grade specific Math tests.

Because the Rasch model is used in equating and scaling the CSTs, an important part of IRT item analyses is the assessment of model-data fit. ETS statisticians classified operational and field-test items for the CSTs into discrete categories based on an evaluation of how well each item was fit by the Rasch model. The flagging scheme has categories of A, B, C, D, and F that are assigned based on an evaluation of graphical model-data fit information. Descriptors for each category are provided below. The IRT item characteristic curves and empirical data (item-ability regressions) for five recently field-tested items are shown in figure 4.1. These five items illustrate the various rating categories. The item number in the calibration and ETS identification number for each item (“accession number”) are listed next to each item as well as the corresponding rating categories.

Flag A (Item 158, VC028628)

- Good fit of theoretical curve to empirical data along the entire ability range, may have some small divergence at the extremes
- Small Chi-square value relative to the other items in the calibration with similar sample sizes

Flag B (Item 129, VC028619)

- Theoretical curve within error range across most of ability range, may have some small divergence at the extremes
- Acceptable Chi-square value relative to the other items in the calibration with similar sample sizes

Flag C (Item 161, VC028609)

- Theoretical curve within error range at some regions and slightly outside of error range at remaining regions of ability range
- Moderate Chi-square value relative to the other items in the calibration with similar sample sizes
- This category often applies to items that appear to be functioning well, but that are not well fit by the Rasch model

Flag D (Item 176, VC028573)

- Theoretical curve outside of error range at some regions across ability range
- Large Chi-square value relative to the other items in the calibration with similar sample sizes
- In addition to inadequate Rasch model-data fit, the item appears to be poorly suited for use (may be poorly discriminating overall or too difficult to provide any discrimination)

Flag F (Item 167, VC028972)

- Theoretical curve outside of error range at most regions across ability range
- Probability of answering item correctly may be higher at lower ability than higher ability (U shaped empirical curve)
- Very large Chi-square value (sometimes larger than three digits) relative to the other items with similar sample sizes and classical item statistics tend also to be very poor.

In general, items with flagging categories of A, B, or C are all considered acceptable. Ratings of D are considered questionable – test developers are asked to avoid these items if possible and to carefully review them if they must be used. Test developers are instructed to avoid using items rated F for operational test assembly.

The results of the IRT model data fit classifications are presented in Tables 4.C.33 to 4.C.37 for operational items and in Tables 4.C.38 to 4.C.42 for the field-test items. In general, very few operational items were rated as F items for the grade-specific Mathematics tests as well as History and Science tests. For ELA, eight items across the 10 tests received model data fit ratings of F. For the end-of-course math tests, percentage was slightly higher with eight items across 5 tests that received model data fit ratings of F. For the History-Social Science tests, more than 97% of items received model data fit ratings of A, B, or C for each grade and only one item received an F rating at grade 8. As expected, the number of items flagged for an F model data fit rating was considerably higher for integrated Math tests. Across the three integrated Math CSTs, 17% of the items were flagged as having bad model data fit, out of which 66% belonged to the Integrated Math I CST. This appears to result from a test that was very difficult for the population being tested.

As would be expected, a larger percentage of the field test items received model-data fit ratings of F compared with the operational items. The percentage of field test items with F ratings ranged from 8% to 26% across the 10 ELA tests and from 19% to 38% for the three History tests. For the grade specific Math tests, grades 2 and 3 had the lowest percentage of F ratings (8%), and grade 7 had the highest percentage of F ratings (27%). The percentage of items with F ratings varied considerably across the end-of-course Math tests. These values ranged from 9% for Geometry to 67% for the General Math test. For Science, 12% to 48% of the items were flagged with F ratings. In general, percentages of field-test items that were considered

acceptable ranged from 73% to over 90%. Out of 29 tests for which field-testing occurred, 22 of the tests had more than 80% of items deemed useable. It should be noted that 26 of the 29 tests had about 75% items considered acceptable for future use. These field-test item survival rates are quite high compared with industry standards.

Summary of Item-Level Analyses

The item-level analyses of the 2004 CSTs presented in this chapter included classical item analyses, DIF analyses, and IRT analyses. Overall, these analyses indicate that the CSTs administered in 2004 meet the technical criteria established in professional standards for high-stakes tests, and that the items field tested as part of the 2004 administration have statistical characteristics that are appropriate for use in future administrations.

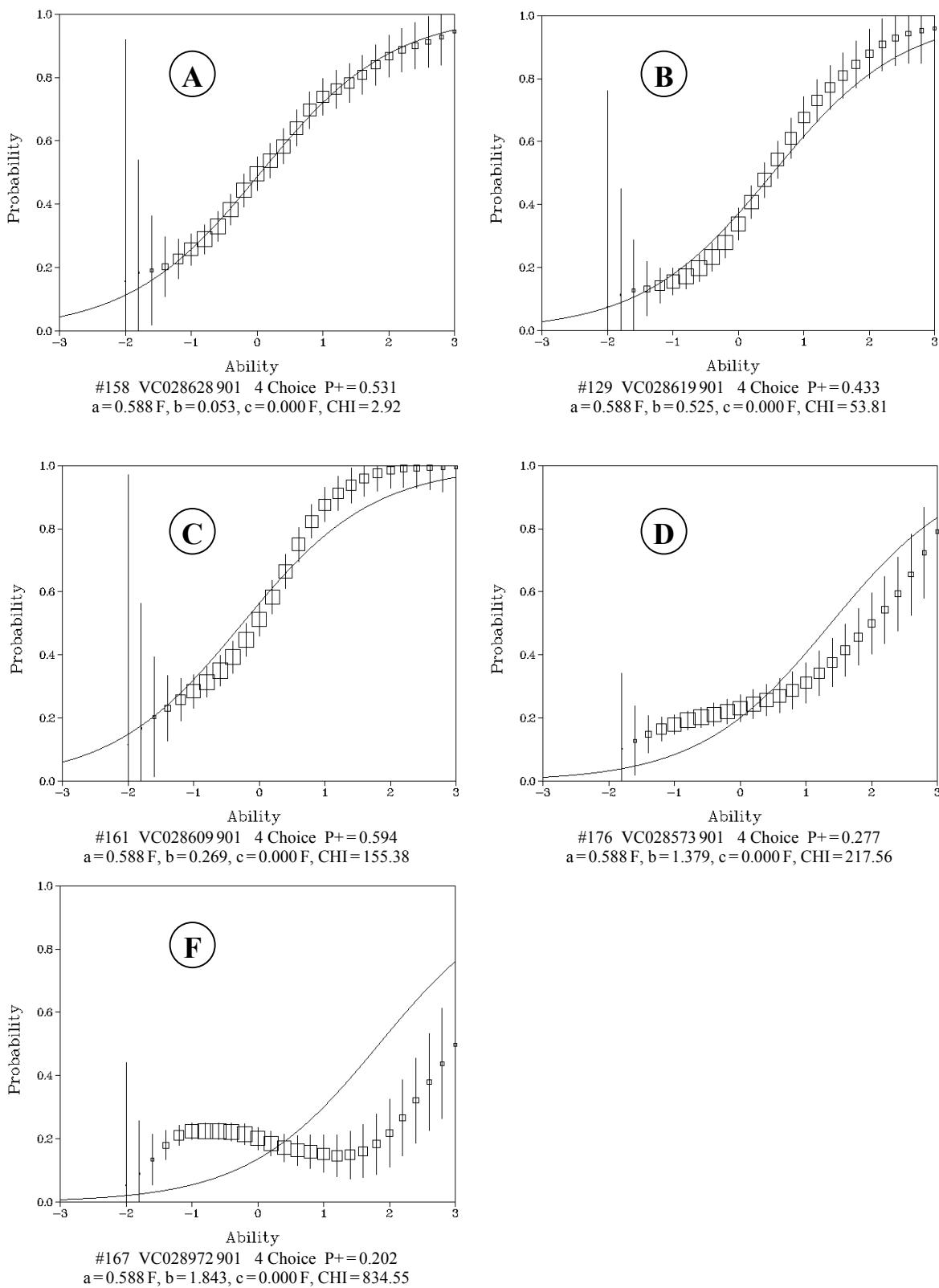


Figure 4.1: Items from the 2004 Mathematics Grade 6 Field Test Calibration

References

- Holland, P.W. and Thayer, D.T. (1985). *An alternative definition of the ETS delta scale of item difficulty.* RR-85-43.
- Dorans, N.J. and Holland, P.W. (1993). DIF detection and description: Mantel-Haenszel and standardization. In P. W. Holland & H. Wainer (Eds.) *Differential item functioning* (pp. 35-66). Hillsdale, NJ: Erlbaum.

Appendix 4.A

**Table 4.A.1: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts
(Grades 2 to 6)**

Items	Grade 2			Grade 3			Grade 4			Grade 5			Grade 6		
	P+	R-Bis	B-value												
1	0.79	0.40	-1.38	0.87	0.43	-2.01	0.77	0.47	-1.08	0.85	0.40	-1.75	0.75	0.42	-0.99
2	0.69	0.49	-0.69	0.67	0.42	-0.67	0.71	0.41	-0.72	0.67	0.45	-0.40	0.71	0.38	-0.81
3	0.46	0.46	0.68	0.46	0.41	0.40	0.89	0.32	-2.16	0.83	0.39	-1.60	0.65	0.41	-0.40
4	0.89	0.29	-2.18	0.76	0.41	-1.18	0.40	0.15	0.71	0.93	0.34	-2.70	0.43	0.40	0.58
5	0.60	0.29	-0.21	0.54	0.41	-0.08	0.63	0.48	-0.26	0.77	0.52	-1.02	0.53	0.38	0.05
6	0.71	0.45	-0.74	0.52	0.52	0.14	0.24	0.20	1.73	0.65	0.50	-0.42	0.68	0.52	-0.53
7	0.60	0.46	-0.17	0.73	0.50	-0.94	0.70	0.50	-0.58	0.49	0.44	0.42	0.36	0.46	1.04
8	0.88	0.46	-1.97	0.83	0.42	-1.64	0.44	0.44	0.72	0.72	0.53	-0.73	0.55	0.41	0.07
9	0.47	0.49	0.41	0.55	0.40	-0.03	0.66	0.52	-0.41	0.48	0.45	0.49	0.71	0.34	-0.77
10	0.79	0.52	-1.24	0.70	0.37	-0.97	0.76	0.43	-1.01	0.75	0.41	-0.93	0.71	0.47	-0.67
11	0.52	0.36	0.03	0.63	0.50	-0.49	0.85	0.34	-1.73	0.45	0.41	0.70	0.62	0.32	-0.29
12	0.60	0.55	-0.10	0.66	0.57	-0.51	0.53	0.42	0.17	0.47	0.47	0.65	0.38	0.38	0.88
13	0.42	0.41	0.71	0.50	0.37	0.12	0.54	0.44	0.14	0.36	0.28	0.97	0.61	0.37	-0.29
14	0.59	0.41	-0.07	0.33	0.26	0.95	0.63	0.49	-0.26	0.45	0.29	0.51	0.65	0.42	-0.42
15	0.54	0.50	0.16	0.61	0.49	-0.31	0.51	0.55	0.42	0.70	0.52	-0.60	0.60	0.47	-0.17
16	0.78	0.50	-1.15	0.43	0.40	0.56	0.54	0.46	0.19	0.54	0.45	0.21	0.69	0.49	-0.61
17	0.64	0.56	-0.27	0.61	0.46	-0.37	0.31	0.34	1.31	0.60	0.56	-0.09	0.59	0.53	-0.11
18	0.67	0.58	-0.49	0.64	0.46	-0.47	0.49	0.38	0.35	0.70	0.55	-0.63	0.48	0.30	0.29
19	0.37	0.30	0.94	0.52	0.44	0.16	0.75	0.55	-0.82	0.47	0.47	0.51	0.52	0.26	0.06
20	0.57	0.47	0.08	0.39	0.34	0.67	0.49	0.45	0.41	0.63	0.43	-0.35	0.43	0.29	0.57
21	0.39	0.35	0.82	0.30	0.39	1.26	0.50	0.40	0.30	0.43	0.26	0.63	0.47	0.33	0.34
22	0.58	0.43	-0.12	0.62	0.55	-0.24	0.51	0.37	0.26	0.76	0.50	-1.08	0.64	0.37	-0.43
23	0.49	0.46	0.43	0.30	0.25	1.14	0.60	0.48	-0.16	0.82	0.53	-1.41	0.55	0.44	0.11
24	0.62	0.43	-0.22	0.64	0.37	-0.53	0.46	0.30	0.42	0.63	0.46	-0.23	0.62	0.46	-0.23
25	0.74	0.56	-0.71	0.81	0.42	-1.50	0.43	0.51	0.93	0.65	0.48	-0.45	0.33	0.29	1.09
26	0.41	0.34	0.67	0.73	0.46	-0.95	0.48	0.47	0.44	0.49	0.39	0.34	0.47	0.41	0.37
27	0.46	0.44	0.60	0.55	0.45	-0.03	0.59	0.57	0.00	0.72	0.48	-0.75	0.23	0.16	1.60
28	0.52	0.46	0.17	0.68	0.49	-0.63	0.60	0.48	-0.05	0.40	0.37	0.78	0.37	0.35	0.92
29	0.49	0.46	0.42	0.63	0.50	-0.35	0.72	0.56	-0.75	0.31	0.32	1.17	0.60	0.52	-0.18
30	0.46	0.36	0.55	0.68	0.56	-0.63	0.72	0.56	-0.65	0.52	0.43	0.26	0.33	0.40	1.15
31	0.61	0.49	-0.22	0.44	0.42	0.48	0.59	0.58	-0.01	0.56	0.54	0.11	0.46	0.41	0.47
32	0.65	0.46	-0.44	0.58	0.42	-0.30	0.67	0.46	-0.43	0.37	0.35	0.94	0.37	0.15	0.73
33	0.61	0.54	-0.22	0.58	0.25	-0.27	0.57	0.51	0.07	0.48	0.40	0.47	0.68	0.52	-0.49
34	0.56	0.56	0.12	0.52	0.40	0.08	0.47	0.50	0.63	0.56	0.44	0.00	0.55	0.36	0.00
35	0.42	0.42	0.61	0.54	0.43	-0.03	0.44	0.35	0.62	0.40	0.28	0.79	0.50	0.27	0.19
36	0.86	0.44	-1.74	0.52	0.39	0.03	0.27	0.19	1.42	0.70	0.48	-0.70	0.57	0.49	-0.02
37	0.56	0.30	-0.10	0.54	0.30	0.00	0.66	0.34	-0.48	0.59	0.46	-0.13	0.59	0.37	-0.22
38	0.61	0.39	-0.28	0.88	0.24	-2.24	0.65	0.51	-0.25	0.55	0.45	-0.02	0.49	0.43	0.35
39	0.47	0.45	0.49	0.42	0.32	0.52	0.73	0.45	-0.86	0.61	0.32	-0.30	0.72	0.29	-0.90
40	0.64	0.54	-0.38	0.39	0.27	0.70	0.60	0.44	-0.13	0.57	0.36	-0.09	0.51	0.31	0.21

**Table 4.A.1: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts
(Grades 2 to 6) [continued]**

Items	Grade 2			Grade 3			Grade 4			Grade 5			Grade 6		
	P+	R-Bis	B-value												
41	0.28	0.22	1.36	0.55	0.35	-0.09	0.49	0.30	0.31	0.59	0.48	-0.07	0.49	0.43	0.41
42	0.56	0.52	0.16	0.42	0.34	0.59	0.58	0.31	-0.08	0.58	0.42	-0.07	0.69	0.35	-0.68
43	0.53	0.40	0.09	0.65	0.38	-0.67	0.38	0.32	0.95	0.47	0.32	0.35	0.66	0.50	-0.43
44	0.58	0.38	-0.21	0.73	0.50	-1.07	0.43	0.41	0.67	0.77	0.40	-1.13	0.83	0.37	-1.55
45	0.70	0.54	-0.72	0.65	0.48	-0.52	0.68	0.49	-0.53	0.58	0.36	-0.14	0.50	0.54	0.43
46	0.44	0.29	0.61	0.44	0.36	0.46	0.48	0.41	0.39	0.61	0.40	-0.24	0.66	0.45	-0.41
47	0.48	0.37	0.41	0.69	0.58	-0.73	0.35	0.23	1.02	0.58	0.49	-0.05	0.50	0.38	0.28
48	0.64	0.56	-0.38	0.38	0.38	0.70	0.62	0.43	-0.27	0.78	0.45	-1.18	0.62	0.36	-0.33
49	0.70	0.54	-0.71	0.49	0.43	0.20	0.58	0.33	-0.09	0.38	0.20	0.79	0.78	0.44	-1.21
50	0.51	0.54	0.30	0.68	0.52	-0.75	0.77	0.30	-1.18	0.45	0.37	0.52	0.86	0.42	-1.82
51	0.55	0.46	0.15	0.74	0.47	-1.11	0.44	0.45	0.60	0.68	0.53	-0.53	0.59	0.55	-0.10
52	0.70	0.41	-0.73	0.55	0.41	-0.12	0.51	0.42	0.35	0.66	0.45	-0.54	0.56	0.48	0.04
53	0.77	0.61	-1.14	0.69	0.48	-0.76	0.54	0.33	-0.01	0.54	0.34	0.03	0.71	0.45	-0.75
54	0.65	0.57	-0.52	0.60	0.56	-0.19	0.48	0.39	0.48	0.81	0.42	-1.45	0.49	0.40	0.34
55	0.58	0.32	-0.18	0.47	0.57	0.38	0.60	0.30	-0.26	0.68	0.48	-0.59	0.30	0.37	1.24
56	0.43	0.41	0.64	0.59	0.36	-0.31	0.40	0.36	0.82	0.43	0.33	0.50	0.37	0.31	0.91
57	0.51	0.47	0.19	0.54	0.52	0.02	0.66	0.50	-0.39	0.58	0.41	-0.10	0.34	0.36	1.04
58	0.70	0.48	-0.76	0.57	0.28	-0.31	0.74	0.47	-0.85	0.34	0.25	1.12	0.42	0.30	0.66
59	0.53	0.49	0.20	0.51	0.50	0.14	0.57	0.20	-0.19	0.76	0.36	-1.12	0.48	0.52	0.36
60	0.76	0.54	-1.12	0.81	0.54	-1.50	0.54	0.49	0.18	0.23	0.21	1.75	0.38	0.38	0.88
61	0.59	0.46	-0.11	0.84	0.49	-1.79	0.69	0.47	-0.61	0.78	0.49	-1.24	0.59	0.57	-0.11
62	0.61	0.45	-0.25	0.73	0.53	-0.90	0.56	0.40	0.04	0.59	0.45	-0.10	0.48	0.37	0.39
63	0.54	0.46	0.21	0.71	0.36	-0.99	0.45	0.50	0.63	0.55	0.41	0.10	0.20	0.27	1.98
64	0.51	0.42	0.21	0.79	0.57	-1.31	0.53	0.47	0.26	0.32	0.42	1.48	0.81	0.49	-1.32
65				0.73	0.52	-1.04	0.45	0.49	0.66	0.57	0.52	-0.01	0.60	0.42	-0.18
66							0.50	0.33	0.37	0.56	0.47	0.07	0.72	0.43	-0.72
67							0.68	0.53	-0.54	0.53	0.52	0.20	0.82	0.51	-1.40
68							0.52	0.37	0.22	0.79	0.54	-1.21	0.41	0.38	0.69
69							0.64	0.39	-0.44	0.49	0.37	0.45	0.70	0.48	-0.66
70							0.65	0.46	-0.42	0.72	0.60	-0.68	0.58	0.43	-0.05
71							0.72	0.54	-0.77	0.63	0.41	-0.39	0.83	0.41	-1.44
72							0.63	0.56	-0.27	0.45	0.34	0.51	0.44	0.29	0.58
73							0.53	0.55	0.32	0.63	0.39	-0.41	0.74	0.38	-1.01
74							0.71	0.41	-0.75	0.89	0.41	-2.07	0.77	0.46	-1.13
75							0.46	0.44	0.53	0.64	0.54	-0.28	0.74	0.46	-0.94

**Table 4.A.2: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts
(Grades 7 to 11)**

Items	Grade 7			Grade 8			Grade 9			Grade 10			Grade 11		
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value
1	0.72	0.40	-0.53	0.72	0.18	-1.11	0.20	0.19	1.73	0.82	0.25	-1.64	0.40	0.31	0.63
2	0.53	0.30	0.41	0.43	0.28	0.57	0.46	0.32	0.36	0.58	0.37	-0.22	0.57	0.27	-0.22
3	0.45	0.35	0.76	0.39	0.41	0.76	0.81	0.50	-1.30	0.34	0.40	0.96	0.30	0.28	1.18
4	0.64	0.47	-0.11	0.74	0.38	-1.08	0.49	0.39	0.27	0.53	0.51	0.04	0.60	0.48	-0.36
5	0.38	0.41	1.08	0.48	0.41	0.35	0.50	0.43	0.19	0.38	0.26	0.76	0.33	0.35	0.99
6	0.43	0.28	0.84	0.66	0.42	-0.52	0.57	0.50	-0.10	0.48	0.43	0.34	0.37	0.35	0.79
7	0.73	0.42	-0.54	0.38	0.27	0.74	0.29	0.29	1.22	0.50	0.33	0.15	0.48	0.36	0.22
8	0.66	0.20	-0.38	0.62	0.43	-0.43	0.61	0.44	-0.29	0.58	0.53	-0.15	0.69	0.51	-0.85
9	0.59	0.39	0.16	0.48	0.38	0.42	0.53	0.31	0.03	0.62	0.49	-0.43	0.38	0.20	0.70
10	0.50	0.38	0.46	0.72	0.49	-0.85	0.50	0.38	0.17	0.60	0.50	-0.29	0.82	0.53	-1.66
11	0.46	0.36	0.65	0.44	0.29	0.41	0.75	0.41	-1.04	0.82	0.50	-1.64	0.76	0.48	-1.23
12	0.66	0.27	-0.33	0.74	0.33	-1.05	0.76	0.42	-1.19	0.76	0.47	-1.20	0.55	0.40	-0.07
13	0.49	0.43	0.56	0.64	0.36	-0.51	0.56	0.55	0.00	0.51	0.57	0.16	0.70	0.44	-0.91
14	0.70	0.35	-0.60	0.49	0.39	0.22	0.73	0.50	-0.98	0.49	0.46	0.29	0.78	0.40	-1.44
15	0.71	0.41	-0.56	0.33	0.32	0.96	0.71	0.48	-0.79	0.82	0.49	-1.62	0.63	0.42	-0.51
16	0.81	0.44	-1.15	0.69	0.44	-0.71	0.72	0.45	-0.92	0.59	0.43	-0.26	0.85	0.47	-2.02
17	0.44	0.30	0.73	0.78	0.46	-1.23	0.73	0.52	-0.89	0.42	0.31	0.51	0.65	0.41	-0.64
18	0.60	0.26	-0.04	0.60	0.39	-0.26	0.70	0.54	-0.74	0.44	0.34	0.47	0.54	0.45	-0.10
19	0.52	0.44	0.49	0.72	0.43	-0.87	0.42	0.50	0.67	0.48	0.53	0.32	0.64	0.56	-0.53
20	0.55	0.43	0.35	0.65	0.48	-0.48	0.66	0.45	-0.58	0.50	0.43	0.17	0.70	0.35	-0.97
21	0.35	0.23	1.21	0.77	0.46	-1.26	0.38	0.30	0.77	0.55	0.35	-0.14	0.28	0.26	1.20
22	0.48	0.35	0.53	0.40	0.31	0.71	0.66	0.34	-0.64	0.48	0.36	0.32	0.48	0.35	0.14
23	0.39	0.40	1.19	0.77	0.51	-1.18	0.28	0.23	1.33	0.58	0.40	-0.27	0.62	0.49	-0.46
24	0.42	0.33	0.91	0.69	0.31	-0.79	0.63	0.49	-0.35	0.71	0.42	-0.93	0.69	0.53	-0.86
25	0.73	0.49	-0.63	0.58	0.29	-0.25	0.52	0.46	0.10	0.58	0.42	-0.25	0.62	0.34	-0.50
26	0.72	0.42	-0.53	0.36	0.30	0.77	0.47	0.51	0.40	0.55	0.57	-0.04	0.51	0.38	0.09
27	0.50	0.41	0.49	0.75	0.41	-1.06	0.41	0.43	0.69	0.64	0.45	-0.49	0.55	0.37	-0.18
28	0.64	0.50	-0.12	0.58	0.50	-0.20	0.33	0.31	0.97	0.61	0.40	-0.37	0.60	0.51	-0.42
29	0.37	0.41	1.32	0.56	0.46	-0.07	0.48	0.36	0.35	0.48	0.46	0.31	0.50	0.43	0.04
30	0.70	0.56	-0.40	0.58	0.26	-0.28	0.51	0.38	0.14	0.49	0.47	0.27	0.65	0.46	-0.65
31	0.78	0.43	-0.91	0.44	0.34	0.39	0.63	0.54	-0.39	0.56	0.39	-0.12	0.50	0.38	0.15
32	0.62	0.50	-0.01	0.41	0.29	0.57	0.58	0.48	-0.19	0.54	0.59	0.05	0.50	0.43	0.13
33	0.77	0.52	-0.76	0.42	0.33	0.58	0.33	0.19	1.00	0.39	0.27	0.73	0.44	0.48	0.43
34	0.49	0.33	0.38	0.45	0.34	0.43	0.62	0.48	-0.35	0.52	0.54	0.17	0.51	0.37	0.03
35	0.43	0.43	0.80	0.71	0.57	-0.79	0.44	0.37	0.44	0.49	0.33	0.25	0.48	0.35	0.21
36	0.55	0.51	0.31	0.48	0.45	0.27	0.68	0.46	-0.65	0.59	0.56	-0.17	0.43	0.25	0.47
37	0.72	0.53	-0.57	0.57	0.33	-0.15	0.33	0.25	0.99	0.46	0.35	0.40	0.48	0.30	0.12
38	0.55	0.41	0.28	0.42	0.37	0.57	0.74	0.49	-0.97	0.69	0.60	-0.74	0.56	0.37	-0.21
39	0.79	0.43	-1.03	0.69	0.47	-0.65	0.60	0.30	-0.28	0.45	0.48	0.41	0.47	0.23	0.20
40	0.65	0.45	-0.07	0.60	0.36	-0.29	0.64	0.31	-0.53	0.51	0.38	0.16	0.49	0.28	0.15

**Table 4.A.2: Item-by-item P-Plus, Point R-Biserial and B-value for English-language Arts
(Grades 7 to 11) [continued]**

Items	Grade 7			Grade 8			Grade 9			Grade 10			Grade 11		
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value
41	0.42	0.36	0.89	0.43	0.29	0.46	0.54	0.42	-0.01	0.63	0.42	-0.42	0.45	0.41	0.32
42	0.60	0.27	-0.08	0.31	0.33	1.12	0.63	0.29	-0.59	0.73	0.39	-1.03	0.57	0.44	-0.19
43	0.54	0.17	0.23	0.47	0.35	0.31	0.51	0.47	0.20	0.64	0.49	-0.45	0.51	0.35	0.11
44	0.59	0.47	0.22	0.58	0.47	-0.08	0.48	0.31	0.30	0.77	0.51	-1.26	0.73	0.60	-1.10
45	0.78	0.49	-0.89	0.51	0.12	0.09	0.54	0.49	0.12	0.57	0.46	-0.10	0.61	0.52	-0.41
46	0.49	0.41	0.57	0.65	0.52	-0.48	0.28	0.28	1.28	0.62	0.47	-0.35	0.68	0.53	-0.75
47	0.37	0.31	1.14	0.53	0.45	0.09	0.78	0.51	-1.23	0.58	0.48	-0.11	0.35	0.27	0.89
48	0.61	0.54	0.07	0.64	0.34	-0.49	0.67	0.54	-0.55	0.39	0.30	0.75	0.59	0.50	-0.32
49	0.46	0.41	0.81	0.40	0.31	0.69	0.64	0.33	-0.42	0.55	0.48	-0.02	0.36	0.29	0.88
50	0.42	0.25	0.85	0.76	0.34	-1.24	0.65	0.37	-0.58	0.74	0.51	-1.03	0.57	0.34	-0.19
51	0.63	0.49	-0.11	0.50	0.40	0.20	0.52	0.31	0.10	0.61	0.36	-0.40	0.64	0.47	-0.59
52	0.80	0.53	-0.95	0.82	0.42	-1.43	0.66	0.24	-0.64	0.81	0.57	-1.54	0.51	0.39	0.04
53	0.76	0.45	-0.81	0.56	0.47	-0.10	0.59	0.41	-0.15	0.40	0.27	0.69	0.37	0.25	0.76
54	0.68	0.47	-0.35	0.54	0.44	0.00	0.51	0.17	0.06	0.48	0.27	0.25	0.46	0.48	0.36
55	0.78	0.47	-0.98	0.42	0.29	0.57	0.75	0.45	-1.10	0.71	0.53	-0.92	0.52	0.39	0.02
56	0.70	0.46	-0.43	0.64	0.48	-0.47	0.70	0.45	-0.87	0.42	0.27	0.60	0.66	0.46	-0.70
57	0.59	0.42	0.09	0.53	0.45	0.05	0.48	0.44	0.27	0.77	0.57	-1.24	0.60	0.41	-0.34
58	0.38	0.44	1.12	0.64	0.46	-0.42	0.48	0.42	0.26	0.64	0.45	-0.55	0.51	0.41	0.10
59	0.37	0.22	1.07	0.85	0.41	-1.84	0.63	0.52	-0.43	0.65	0.50	-0.68	0.77	0.55	-1.33
60	0.42	0.43	0.93	0.83	0.51	-1.58	0.35	0.28	0.93	0.76	0.51	-1.22	0.66	0.49	-0.69
61	0.49	0.45	0.60	0.44	0.31	0.48	0.64	0.55	-0.43	0.43	0.48	0.59	0.49	0.37	0.14
62	0.63	0.49	-0.04	0.64	0.41	-0.50	0.45	0.41	0.43	0.45	0.33	0.40	0.53	0.45	0.03
63	0.43	0.41	0.80	0.34	0.18	0.87	0.44	0.35	0.51	0.67	0.52	-0.65	0.76	0.57	-1.28
64	0.63	0.51	-0.05	0.58	0.44	-0.17	0.36	0.29	0.87	0.57	0.45	-0.23	0.60	0.32	-0.43
65	0.47	0.40	0.56	0.46	0.35	0.36	0.56	0.44	-0.11	0.46	0.30	0.38	0.62	0.43	-0.54
66	0.59	0.47	0.09	0.44	0.27	0.39	0.54	0.46	-0.05	0.53	0.44	-0.01	0.52	0.39	0.04
67	0.60	0.40	0.12	0.71	0.42	-0.83	0.47	0.54	0.45	0.54	0.34	-0.03	0.67	0.49	-0.72
68	0.40	0.25	0.92	0.60	0.45	-0.24	0.36	0.27	0.83	0.78	0.54	-1.31	0.38	0.29	0.68
69	0.54	0.46	0.37	0.62	0.49	-0.35	0.65	0.45	-0.55	0.59	0.50	-0.23	0.70	0.50	-0.86
70	0.52	0.43	0.55	0.29	0.29	1.15	0.60	0.38	-0.32	0.74	0.54	-1.04	0.51	0.35	0.08
71	0.43	0.26	0.73	0.37	0.32	0.82	0.34	0.24	0.98	0.39	0.20	0.72	0.67	0.47	-0.72
72	0.74	0.53	-0.60	0.55	0.40	-0.09	0.68	0.53	-0.65	0.53	0.26	0.06	0.67	0.53	-0.68
73	0.59	0.53	0.17	0.34	0.33	0.94	0.71	0.56	-0.75	0.63	0.52	-0.42	0.68	0.58	-0.76
74	0.61	0.48	0.07	0.62	0.50	-0.35	0.51	0.37	0.15	0.66	0.49	-0.62	0.73	0.57	-1.05
75	0.72	0.51	-0.46	0.73	0.42	-0.92	0.62	0.52	-0.30	0.68	0.40	-0.77	0.75	0.48	-1.15

Table 4.A.3: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (Grades 2 to 7)

Items	Grade 2			Grade 3			Grade 4			Grade 5			Grade 6			Grade 7		
	P+	R-Bis	B-value															
1	0.90	0.36	-2.22	0.86	0.44	-1.77	0.82	0.43	-1.41	0.75	0.40	-1.03	0.66	0.45	-0.66	0.89	0.35	-2.21
2	0.57	0.51	0.15	0.60	0.35	-0.10	0.78	0.29	-1.30	0.53	0.48	0.10	0.74	0.38	-1.09	0.66	0.40	-0.70
3	0.53	0.38	0.11	0.80	0.46	-1.27	0.95	0.22	-3.26	0.70	0.39	-0.92	0.55	0.35	-0.18	0.68	0.54	-0.65
4	0.76	0.47	-1.14	0.73	0.49	-0.80	0.63	0.54	-0.38	0.21	0.38	1.81	0.34	0.37	0.85	0.59	0.50	-0.24
5	0.55	0.51	0.09	0.87	0.45	-1.77	0.65	0.52	-0.44	0.83	0.38	-1.77	0.73	0.47	-1.06	0.49	0.41	0.12
6	0.63	0.45	-0.35	0.58	0.58	0.09	0.84	0.48	-1.67	0.56	0.56	0.02	0.87	0.35	-2.01	0.76	0.38	-1.22
7	0.72	0.44	-0.85	0.64	0.52	-0.29	0.56	0.29	-0.07	0.39	0.39	0.62	0.66	0.49	-0.62	0.59	0.58	-0.14
8	0.52	0.49	0.28	0.73	0.42	-0.88	0.69	0.46	-0.66	0.87	0.35	-2.15	0.59	0.30	-0.34	0.61	0.44	-0.34
9	0.66	0.46	-0.69	0.55	0.49	0.14	0.76	0.49	-1.10	0.59	0.42	-0.29	0.47	0.47	0.24	0.41	0.35	0.50
10	0.74	0.47	-0.99	0.65	0.46	-0.31	0.73	0.49	-0.88	0.50	0.46	0.17	0.47	0.51	0.42	0.82	0.41	-1.60
11	0.48	0.28	0.38	0.46	0.35	0.66	0.68	0.52	-0.56	0.48	0.46	0.23	0.34	0.33	0.85	0.35	0.22	0.76
12	0.78	0.45	-1.36	0.63	0.52	-0.13	0.75	0.53	-0.97	0.61	0.46	-0.39	0.31	0.41	1.13	0.58	0.47	-0.18
13	0.69	0.41	-0.58	0.48	0.46	0.62	0.56	0.46	0.08	0.65	0.45	-0.51	0.44	0.50	0.38	0.53	0.48	0.04
14	0.63	0.55	-0.33	0.90	0.31	-2.27	0.80	0.52	-1.37	0.68	0.44	-0.72	0.42	0.38	0.50	0.85	0.44	-1.70
15	0.84	0.46	-1.76	0.46	0.39	0.54	0.50	0.36	0.27	0.34	0.43	0.99	0.37	0.42	0.76	0.58	0.56	-0.27
16	0.44	0.47	0.62	0.61	0.38	-0.24	0.50	0.44	0.32	0.51	0.31	0.09	0.28	0.26	1.08	0.32	0.19	0.91
17	0.66	0.43	-0.57	0.54	0.36	0.26	0.57	0.37	-0.21	0.33	0.35	1.06	0.52	0.35	-0.01	0.45	0.24	0.18
18	0.88	0.40	-2.19	0.82	0.37	-1.38	0.49	0.46	0.39	0.56	0.46	-0.10	0.51	0.40	-0.05	0.48	0.40	0.18
19	0.91	0.44	-2.33	0.63	0.48	-0.22	0.61	0.42	-0.37	0.37	0.36	0.81	0.50	0.41	0.12	0.57	0.46	-0.22
20	0.57	0.39	0.09	0.40	0.35	0.73	0.67	0.42	-0.57	0.56	0.40	-0.21	0.46	0.40	0.26	0.57	0.29	-0.30
21	0.75	0.44	-0.98	0.60	0.57	-0.02	0.77	0.54	-1.05	0.41	0.44	0.67	0.40	0.26	0.43	0.56	0.49	-0.15
22	0.94	0.31	-2.93	0.33	0.38	1.34	0.70	0.44	-0.84	0.44	0.61	0.68	0.41	0.38	0.55	0.45	0.35	0.43
23	0.96	0.21	-3.30	0.84	0.42	-1.43	0.52	0.37	0.09	0.59	0.43	-0.32	0.47	0.41	0.26	0.83	0.43	-1.75
24	0.83	0.46	-1.48	0.92	0.37	-2.42	0.70	0.52	-0.73	0.65	0.45	-0.49	0.66	0.43	-0.65	0.30	0.33	1.07
25	0.86	0.20	-1.90	0.72	0.48	-0.67	0.55	0.52	0.06	0.40	0.30	0.67	0.68	0.55	-0.68	0.42	0.42	0.65
26	0.67	0.51	-0.35	0.51	0.47	0.46	0.69	0.46	-0.66	0.46	0.59	0.53	0.57	0.49	-0.16	0.60	0.42	-0.40
27	0.71	0.48	-0.71	0.74	0.40	-0.82	0.60	0.47	-0.12	0.54	0.34	0.03	0.50	0.37	0.08	0.71	0.47	-0.95
28	0.89	0.35	-2.23	0.64	0.53	-0.21	0.54	0.50	0.13	0.40	0.42	0.76	0.51	0.43	0.06	0.45	0.35	0.40
29	0.82	0.44	-1.36	0.55	0.46	0.31	0.67	0.43	-0.59	0.39	0.53	0.81	0.65	0.55	-0.53	0.54	0.34	-0.15
30	0.75	0.49	-0.95	0.89	0.42	-2.12	0.71	0.49	-0.74	0.44	0.34	0.43	0.51	0.60	0.16	0.33	0.36	0.95
31	0.79	0.28	-1.33	0.89	0.35	-2.03	0.40	0.36	0.77	0.47	0.32	0.29	0.73	0.36	-1.06	0.61	0.52	-0.35
32	0.81	0.41	-1.37	0.48	0.45	0.54	0.39	0.41	1.02	0.55	0.38	-0.11	0.70	0.42	-0.88	0.25	0.45	1.46
33	0.89	0.42	-1.98	0.72	0.41	-0.95	0.63	0.55	-0.36	0.73	0.44	-0.98	0.62	0.33	-0.53	0.40	0.39	0.61
34	0.65	0.46	-0.32	0.62	0.49	-0.18	0.61	0.55	-0.08	0.46	0.19	0.16	0.60	0.54	-0.33	0.57	0.51	-0.24
35	0.61	0.30	-0.17	0.62	0.54	-0.23	0.56	0.55	0.10	0.65	0.54	-0.51	0.55	0.32	-0.18	0.35	0.49	0.85
36	0.79	0.51	-1.12	0.83	0.45	-1.36	0.64	0.52	-0.31	0.87	0.39	-2.11	0.59	0.27	-0.47	0.60	0.46	-0.42
37	0.72	0.32	-0.90	0.66	0.56	-0.35	0.51	0.37	0.14	0.87	0.39	-2.11	0.38	0.37	0.66	0.31	0.35	1.06
38	0.65	0.46	-0.34	0.77	0.56	-0.94	0.47	0.41	0.45	0.36	0.37	0.90	0.57	0.47	-0.19	0.41	0.28	0.46
39	0.39	0.42	1.05	0.56	0.39	0.03	0.69	0.57	-0.61	0.44	0.52	0.56	0.19	0.26	1.84	0.48	0.29	0.17
40	0.82	0.48	-1.39	0.79	0.45	-1.17	0.88	0.41	-2.13	0.32	0.40	1.08	0.78	0.50	-1.23	0.43	0.28	0.36

Table 4.A.3: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (Grades 2 to 7) [continued]

Items	Grade 2			Grade 3			Grade 4			Grade 5			Grade 6			Grade 7		
	P+	R-Bis	B-value															
41	0.63	0.33	-0.37	0.75	0.45	-0.97	0.55	0.47	0.00	0.52	0.40	0.08	0.73	0.48	-1.03	0.34	0.28	0.87
42	0.83	0.44	-1.53	0.58	0.35	-0.01	0.65	0.59	-0.43	0.91	0.37	-2.48	0.89	0.36	-2.28	0.71	0.52	-0.87
43	0.72	0.47	-0.77	0.39	0.24	1.00	0.49	0.52	0.24	0.72	0.37	-0.97	0.64	0.46	-0.56	0.43	0.36	0.49
44	0.62	0.44	-0.29	0.67	0.39	-0.50	0.63	0.39	-0.32	0.30	0.34	1.35	0.72	0.39	-1.02	0.59	0.49	-0.31
45	0.71	0.49	-0.74	0.69	0.41	-0.55	0.64	0.50	-0.44	0.55	0.61	0.07	0.43	0.31	0.41	0.65	0.41	-0.62
46	0.79	0.51	-1.21	0.84	0.42	-1.56	0.55	0.41	0.02	0.67	0.42	-0.68	0.53	0.53	0.04	0.31	0.39	1.05
47	0.73	0.38	-0.90	0.52	0.48	0.45	0.65	0.42	-0.48	0.85	0.44	-1.81	0.46	0.43	0.28	0.64	0.39	-0.59
48	0.75	0.46	-0.95	0.41	0.38	0.85	0.58	0.53	-0.08	0.70	0.45	-0.89	0.41	0.35	0.55	0.51	0.53	0.08
49	0.54	0.45	-0.03	0.54	0.54	0.28	0.58	0.49	-0.09	0.58	0.41	-0.26	0.62	0.48	-0.38	0.63	0.49	-0.41
50	0.78	0.43	-1.14	0.57	0.43	0.04	0.70	0.44	-0.75	0.56	0.50	-0.02	0.59	0.51	-0.31	0.71	0.52	-0.95
51	0.87	0.37	-1.84	0.64	0.51	-0.26	0.64	0.53	-0.43	0.43	0.39	0.63	0.49	0.45	0.13	0.69	0.55	-0.79
52	0.54	0.43	0.32	0.64	0.50	-0.32	0.48	0.34	0.27	0.47	0.55	0.37	0.59	0.44	-0.37	0.50	0.37	0.14
53	0.63	0.41	-0.34	0.47	0.53	0.69	0.32	0.28	1.26	0.84	0.39	-1.74	0.53	0.42	-0.10	0.66	0.31	-0.78
54	0.66	0.54	-0.39	0.69	0.54	-0.51	0.67	0.57	-0.52	0.57	0.37	-0.27	0.33	0.17	0.80	0.67	0.47	-0.70
55	0.75	0.45	-0.93	0.66	0.46	-0.37	0.64	0.41	-0.42	0.34	0.23	0.81	0.30	0.46	1.21	0.46	0.36	0.25
56	0.46	0.41	0.57	0.55	0.50	0.25	0.56	0.46	0.03	0.65	0.38	-0.64	0.54	0.44	-0.02	0.58	0.51	-0.31
57	0.69	0.31	-0.68	0.66	0.51	-0.33	0.68	0.55	-0.54	0.47	0.44	0.37	0.68	0.58	-0.71	0.30	0.48	1.19
58	0.81	0.46	-1.32	0.54	0.58	0.35	0.67	0.50	-0.54	0.56	0.48	-0.10	0.39	0.44	0.71	0.57	0.52	-0.20
59	0.66	0.46	-0.43	0.37	0.49	1.16	0.63	0.52	-0.42	0.67	0.47	-0.64	0.49	0.58	0.22	0.70	0.59	-0.77
60	0.87	0.39	-1.93	0.46	0.49	0.74	0.52	0.62	0.33	0.71	0.35	-1.00	0.40	0.34	0.53	0.39	0.42	0.63
61	0.56	0.50	0.13	0.69	0.45	-0.67	0.62	0.45	-0.39	0.46	0.31	0.35	0.54	0.47	-0.02	0.28	0.33	1.19
62	0.79	0.44	-1.26	0.69	0.41	-0.62	0.55	0.35	-0.04	0.52	0.57	0.21	0.52	0.61	0.20	0.46	0.41	0.21
63	0.37	0.47	1.15	0.68	0.50	-0.42	0.79	0.56	-1.28	0.60	0.52	-0.29	0.42	0.45	0.49	0.52	0.38	0.02
64	0.68	0.39	-0.49	0.63	0.55	-0.24	0.47	0.30	0.30	0.47	0.51	0.44	0.58	0.51	-0.20	0.39	0.42	0.67
65	0.87	0.46	-1.95	0.69	0.49	-0.62	0.86	0.44	-1.87	0.70	0.50	-0.72	0.39	0.46	0.68	0.32	0.18	0.89

Table 4.A.4: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (General Mathematics, Algebra I, Geometry and Algebra II)

Items	General Math			Algebra I					Geometry					Algebra II				
	P+	R-Bis	B-value	Grade 8 P+	Grade 8 R-Bis	P+	R-Bis	B-value	Grade 9 P+	Grade 9 R-Bis	P+	R-Bis	B-value	Grade 10 P+	Grade 10 R-Bis	P+	R-Bis	B-value
1	0.77	0.42	-1.32	0.62	0.50	0.54	0.43	-0.43	0.57	0.46	0.45	0.46	-0.33	0.41	0.50	0.34	0.50	0.42
2	0.51	0.27	-0.10	0.61	0.37	0.54	0.33	-0.42	0.32	0.54	0.22	0.51	0.77	0.43	0.20	0.42	0.17	0.10
3	0.67	0.51	-0.67	0.30	0.35	0.23	0.29	0.90	0.60	0.47	0.48	0.44	-0.56	0.53	0.31	0.48	0.31	-0.28
4	0.81	0.40	-1.64	0.83	0.31	0.78	0.31	-1.77	0.62	0.38	0.54	0.32	-0.62	0.31	0.32	0.27	0.32	0.92
5	0.68	0.44	-0.76	0.52	0.52	0.44	0.48	0.07	0.35	0.36	0.29	0.31	0.60	0.56	0.41	0.49	0.42	-0.36
6	0.27	0.21	1.04	0.80	0.39	0.74	0.37	-1.36	0.65	0.49	0.49	0.48	-0.64	0.58	0.32	0.53	0.32	-0.60
7	0.55	0.46	-0.14	0.52	0.47	0.39	0.43	-0.08	0.63	0.28	0.56	0.28	-0.73	0.74	0.49	0.66	0.50	-1.33
8	0.35	0.25	0.72	0.61	0.32	0.49	0.33	-0.62	0.65	0.34	0.56	0.35	-0.77	0.88	0.30	0.84	0.34	-2.38
9	0.44	0.34	0.25	0.74	0.32	0.69	0.32	-1.23	0.51	0.44	0.39	0.44	0.01	0.40	0.40	0.35	0.41	0.46
10	0.30	0.21	0.94	0.38	0.38	0.31	0.30	0.60	0.81	0.24	0.74	0.27	-1.76	0.41	0.36	0.37	0.36	0.57
11	0.42	0.25	0.44	0.37	0.40	0.31	0.29	0.60	0.56	0.35	0.45	0.38	-0.32	0.60	0.55	0.53	0.55	-0.49
12	0.45	0.37	0.23	0.44	0.37	0.37	0.31	0.21	0.23	0.36	0.18	0.29	1.20	0.85	0.31	0.80	0.34	-2.08
13	0.72	0.47	-1.05	0.48	0.11	0.45	0.10	-0.12	0.26	0.42	0.19	0.38	1.15	0.85	0.38	0.80	0.41	-2.08
14	0.35	0.32	0.69	0.23	0.24	0.20	0.17	1.24	0.66	0.31	0.59	0.31	-0.97	0.63	0.41	0.56	0.44	-0.85
15	0.59	0.56	-0.31	0.51	0.52	0.42	0.44	0.07	0.55	0.33	0.46	0.35	-0.25	0.48	0.37	0.40	0.38	-0.03
16	0.51	0.26	-0.05	0.52	0.47	0.41	0.40	0.01	0.36	0.22	0.31	0.21	0.65	0.63	0.33	0.58	0.34	-0.73
17	0.53	0.51	-0.14	0.37	0.47	0.31	0.35	0.65	0.76	0.28	0.70	0.29	-1.45	0.31	0.29	0.28	0.27	0.64
18	0.22	0.35	1.47	0.29	0.38	0.24	0.26	0.97	0.51	0.45	0.42	0.40	-0.14	0.32	0.32	0.28	0.30	0.82
19	0.69	0.56	-0.85	0.44	0.43	0.36	0.35	0.35	0.38	0.47	0.27	0.45	0.45	0.36	0.26	0.33	0.25	0.50
20	0.39	0.39	0.53	0.30	0.28	0.27	0.17	0.83	0.52	0.45	0.40	0.44	-0.19	0.55	0.32	0.51	0.32	-0.33
21	0.27	0.23	1.04	0.42	0.35	0.35	0.27	0.37	0.75	0.41	0.61	0.45	-1.19	0.28	0.28	0.25	0.27	0.97
22	0.52	0.44	0.00	0.69	0.35	0.61	0.33	-0.88	0.49	0.22	0.43	0.23	-0.05	0.29	0.26	0.26	0.26	0.85
23	0.52	0.44	-0.14	0.64	0.50	0.54	0.48	-0.53	0.53	0.38	0.44	0.36	-0.22	0.67	0.29	0.62	0.30	-0.84
24	0.30	0.17	0.86	0.64	0.25	0.56	0.26	-0.83	0.43	0.38	0.36	0.32	0.29	0.45	0.42	0.39	0.41	0.24
25	0.55	0.40	-0.24	0.40	0.38	0.32	0.32	0.48	0.57	0.44	0.44	0.43	-0.45	0.53	0.29	0.49	0.29	-0.30
26	0.19	0.13	1.54	0.69	0.43	0.61	0.40	-0.77	0.54	0.32	0.44	0.37	-0.12	0.32	0.29	0.30	0.25	0.69
27	0.46	0.37	0.16	0.57	0.57	0.45	0.52	-0.09	0.55	0.34	0.47	0.32	-0.19	0.46	0.31	0.41	0.30	0.08
28	0.33	0.31	0.81	0.39	0.30	0.33	0.23	0.45	0.36	0.45	0.28	0.38	0.47	0.46	0.44	0.40	0.44	-0.04
29	0.52	0.47	-0.06	0.51	0.30	0.43	0.30	-0.13	0.54	0.33	0.47	0.31	-0.26	0.53	0.34	0.48	0.34	-0.23
30	0.48	0.50	0.22	0.63	0.35	0.54	0.32	-0.62	0.56	0.51	0.41	0.49	-0.15	0.58	0.36	0.52	0.36	-0.54
31	0.80	0.36	-1.49	0.44	0.46	0.35	0.39	0.25	0.71	0.37	0.62	0.36	-1.03	0.69	0.37	0.63	0.37	-1.10
32	0.42	0.37	0.37	0.77	0.43	0.66	0.43	-1.30	0.36	0.29	0.31	0.26	0.55	0.83	0.30	0.77	0.34	-2.04
33	0.69	0.40	-0.87	0.28	0.24	0.23	0.21	0.91	0.79	0.38	0.66	0.44	-1.48	0.52	0.49	0.46	0.48	-0.23
34	0.31	0.38	0.99	0.43	0.32	0.35	0.28	0.24	0.39	0.34	0.33	0.30	0.21	0.46	0.40	0.41	0.39	0.27
35	0.52	0.28	-0.10	0.66	0.35	0.61	0.34	-0.85	0.67	0.49	0.52	0.50	-0.78	0.51	0.39	0.47	0.37	-0.35
36	0.68	0.49	-0.69	0.67	0.46	0.53	0.45	-0.71	0.75	0.30	0.67	0.32	-1.25	0.66	0.06	0.66	0.09	-0.95
37	0.43	0.35	0.33	0.30	0.37	0.25	0.26	0.94	0.58	0.35	0.49	0.34	-0.40	0.56	0.35	0.51	0.34	-0.43
38	0.19	0.30	1.80	0.34	0.41	0.26	0.32	0.78	0.63	0.43	0.48	0.49	-0.55	0.65	0.37	0.60	0.37	-0.77
39	0.51	0.56	0.07	0.39	0.35	0.34	0.28	0.45	0.29	0.46	0.24	0.34	0.78	0.58	0.43	0.52	0.42	-0.48
40	0.30	0.24	0.91	0.42	0.45	0.32	0.40	0.44	0.37	0.22	0.32	0.22	0.50	0.45	0.42	0.40	0.38	-0.03

Table 4.A.4: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (General Mathematics, Algebra I, Geometry and Algebra II) [continued]

Items	General Math			Algebra I					Geometry					Algebra II				
	P+	R-Bis	B-value	Grade 8 P+	Grade 8 R-Bis	P+	R-Bis	B-value	Grade 9 P+	Grade 9 R-Bis	P+	R-Bis	B-value	Grade 10 P+	Grade 10 R-Bis	P+	R-Bis	B-value
41	0.50	0.31	-0.01	0.47	0.33	0.40	0.26	0.02	0.54	0.37	0.46	0.32	-0.26	0.43	0.29	0.40	0.28	0.09
42	0.43	0.29	0.27	0.40	0.44	0.31	0.38	0.51	0.46	0.34	0.39	0.30	0.12	0.43	0.49	0.37	0.48	0.20
43	0.53	0.26	-0.17	0.52	0.46	0.42	0.41	-0.06	0.32	0.36	0.26	0.31	0.69	0.65	0.36	0.59	0.38	-0.95
44	0.63	0.44	-0.54	0.59	0.36	0.52	0.33	-0.50	0.46	0.40	0.38	0.34	0.08	0.31	0.49	0.26	0.45	0.76
45	0.53	0.29	-0.18	0.61	0.49	0.51	0.45	-0.41	0.76	0.48	0.60	0.53	-1.16	0.67	0.41	0.60	0.43	-1.09
46	0.50	0.46	0.06	0.25	0.37	0.19	0.26	1.39	0.53	0.42	0.44	0.38	-0.27	0.59	0.45	0.52	0.46	-0.59
47	0.41	0.38	0.56	0.32	0.37	0.27	0.24	0.84	0.50	0.37	0.43	0.31	-0.21	0.58	0.25	0.53	0.29	-0.55
48	0.45	0.41	0.29	0.43	0.29	0.38	0.24	0.20	0.42	0.53	0.29	0.50	0.45	0.61	0.37	0.54	0.39	-0.57
49	0.75	0.43	-1.26	0.38	0.43	0.29	0.36	0.63	0.54	0.28	0.46	0.30	-0.22	0.68	0.40	0.62	0.40	-0.95
50	0.43	0.45	0.35	0.22	0.29	0.18	0.17	1.43	0.38	0.48	0.28	0.43	0.46	0.59	0.46	0.53	0.46	-0.61
51	0.31	0.32	0.91	0.41	0.24	0.37	0.17	0.30	0.54	0.42	0.45	0.38	-0.37	0.63	0.27	0.58	0.29	-0.64
52	0.36	0.33	0.66	0.58	0.46	0.47	0.41	-0.31	0.40	0.27	0.35	0.24	0.38	0.72	0.34	0.67	0.36	-1.37
53	0.33	0.30	0.78	0.24	0.24	0.19	0.20	1.12	0.58	0.21	0.52	0.24	-0.64	0.30	0.35	0.28	0.30	0.92
54	0.34	0.23	0.72	0.51	0.37	0.44	0.31	-0.07	0.54	0.32	0.47	0.30	-0.33	0.53	0.45	0.47	0.43	-0.41
55	0.37	0.21	0.57	0.66	0.40	0.56	0.39	-0.75	0.76	0.42	0.62	0.47	-1.30	0.31	0.33	0.28	0.30	0.79
56	0.31	0.11	0.76	0.43	0.47	0.33	0.40	0.39	0.44	0.38	0.36	0.34	0.14	0.72	0.44	0.66	0.45	-1.22
57	0.60	0.30	-0.50	0.43	0.33	0.37	0.27	0.27	0.78	0.45	0.63	0.49	-1.34	0.65	0.48	0.58	0.47	-0.84
58	0.36	0.21	0.62	0.42	0.50	0.31	0.44	0.44	0.29	0.26	0.26	0.20	0.89	0.51	0.52	0.43	0.52	-0.23
59	0.48	0.30	0.05	0.40	0.37	0.32	0.34	0.39	0.59	0.27	0.52	0.28	-0.65	0.54	0.28	0.50	0.28	-0.40
60	0.35	0.39	0.72	0.39	0.46	0.31	0.38	0.45	0.55	0.50	0.41	0.49	-0.34	0.51	0.34	0.46	0.34	-0.30
61	0.44	0.42	0.27	0.58	0.38	0.49	0.35	-0.41	0.76	0.37	0.64	0.41	-1.36	0.32	0.42	0.28	0.40	0.72
62	0.34	0.15	0.64	0.35	0.40	0.29	0.31	0.68	0.63	0.39	0.52	0.39	-0.56	0.55	0.54	0.48	0.53	-0.26
63	0.67	0.53	-0.75	0.52	0.41	0.44	0.35	-0.11	0.25	0.33	0.22	0.23	1.24	0.40	0.42	0.34	0.40	0.26
64	0.25	0.27	1.21	0.49	0.36	0.41	0.30	-0.05	0.45	0.45	0.33	0.45	0.28	0.77	0.43	0.70	0.45	-1.54
65	0.45	0.40	0.26	0.54	0.39	0.45	0.32	-0.16	0.53	0.40	0.43	0.40	-0.36					

Table 4.A.5: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (High School Math, Integrated Math I, Integrated Math II and Integrated Math III)

Items	High School Mathematics					Integrated Math I			Integrated Math II			Integrated Math III		
	Grade 11 P+	Grade 11 R-Bis	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value
1	0.93	0.34	0.93	0.35	-2.65	0.55	0.38	-0.41	0.42	0.30	-0.47	0.82	0.30	-1.75
2	0.83	0.36	0.83	0.37	-1.69	0.49	0.22	-0.25	0.37	0.18	0.26	0.70	0.43	-1.11
3	0.55	0.40	0.56	0.41	-0.19	0.52	0.41	-0.63	0.18	0.18	2.05	0.54	0.43	-0.54
4	0.68	0.43	0.69	0.44	-0.71	0.61	0.29	-0.67	0.42	0.24	-0.15	0.42	0.39	-0.36
5	0.68	0.42	0.69	0.42	-0.82	0.35	0.24	0.00	0.42	0.33	-0.14	0.61	0.34	-0.90
6	0.69	0.50	0.71	0.51	-0.96	0.29	0.22	0.55	0.32	0.41	0.22	0.25	0.18	1.30
7	0.68	0.37	0.70	0.38	-0.89	0.20	0.13	1.34	0.30	0.25	0.58	0.27	0.21	0.95
8	0.56	0.33	0.58	0.34	-0.32	0.24	0.23	1.08	0.22	0.18	0.76	0.31	0.19	0.73
9	0.75	0.27	0.76	0.27	-1.18	0.35	0.40	0.13	0.37	0.43	-0.27	0.46	0.33	0.23
10	0.72	0.50	0.74	0.51	-0.78	0.36	0.32	0.42	0.47	0.28	-0.31	0.25	0.17	0.75
11	0.79	0.24	0.79	0.25	-1.60	0.31	0.25	0.59	0.46	0.32	-0.24	0.47	0.33	-0.24
12	0.42	0.26	0.43	0.27	0.28	0.24	0.16	0.90	0.61	0.33	-0.96	0.55	0.32	-0.89
13	0.63	0.33	0.64	0.34	-0.63	0.45	0.38	-0.45	0.27	0.34	0.60	0.26	0.11	0.80
14	0.70	0.38	0.72	0.38	-1.00	0.39	0.40	-0.33	0.37	0.25	0.46	0.46	0.33	-0.11
15	0.90	0.25	0.90	0.26	-2.54	0.63	0.41	-1.42	0.20	0.24	1.31	0.40	0.41	0.03
16	0.53	0.47	0.55	0.48	-0.08	0.35	0.41	0.13	0.40	0.26	0.23	0.51	0.36	-0.65
17	0.70	0.53	0.71	0.54	-0.78	0.67	0.37	-1.42	0.21	0.29	1.31	0.51	0.32	-0.35
18	0.79	0.47	0.80	0.48	-1.37	0.51	0.34	-0.68	0.72	0.36	-1.63	0.40	0.42	0.18
19	0.59	0.50	0.61	0.50	-0.27	0.46	0.42	-0.55	0.46	0.48	-0.39	0.35	0.17	0.39
20	0.42	0.42	0.43	0.43	0.47	0.35	0.46	0.51	0.35	0.35	-0.34	0.56	0.35	-0.84
21	0.89	0.40	0.89	0.40	-2.16	0.31	0.10	0.46	0.41	0.25	0.07	0.28	0.32	0.12
22	0.38	0.44	0.40	0.45	0.51	0.16	0.16	1.25	0.44	0.45	-0.50	0.23	0.32	1.47
23	0.62	0.31	0.63	0.31	-0.49	0.15	0.10	1.53	0.44	0.25	-0.20	0.45	0.32	0.34
24	0.51	0.32	0.52	0.33	0.02	0.26	0.22	0.80	0.22	0.33	1.14	0.48	0.46	-0.02
25	0.96	0.29	0.96	0.31	-3.33	0.60	0.31	-1.03	0.45	0.34	-0.37	0.72	0.40	-1.15
26	0.53	0.48	0.55	0.49	0.00	0.41	0.19	-0.03	0.29	0.21	0.65	0.52	0.31	-0.21
27	0.66	0.42	0.67	0.43	-0.71	0.18	0.04	1.13	0.38	0.33	0.38	0.72	0.42	-1.60
28	0.77	0.44	0.78	0.44	-1.34	0.38	0.31	0.22	0.33	0.40	-0.20	0.38	0.22	0.36
29	0.47	0.43	0.49	0.44	0.23	0.16	0.12	1.21	0.35	0.40	0.22	0.74	0.37	-1.16
30	0.79	0.46	0.80	0.46	-1.42	0.26	0.26	0.31	0.50	0.42	-0.63	0.35	0.38	0.80
31	0.84	0.41	0.84	0.42	-1.76	0.47	0.34	-0.52	0.39	0.44	-0.13	0.77	0.27	-1.61
32	0.59	0.45	0.61	0.45	-0.39	0.38	0.28	0.20	0.76	0.33	-2.15	0.53	0.20	-0.39
33	0.62	0.53	0.64	0.53	-0.42	0.44	0.35	-0.31	0.44	0.36	-0.06	0.58	0.41	-0.38
34	0.79	0.37	0.80	0.38	-1.56	0.41	0.31	0.13	0.43	0.14	0.10	0.38	0.41	0.05
35	0.40	0.37	0.41	0.38	0.69	0.32	0.32	0.11	0.26	0.20	0.65	0.25	0.34	1.33
36	0.38	0.44	0.40	0.45	0.76	0.32	0.32	-0.37	0.27	0.33	0.73	0.32	0.42	1.68
37	0.48	0.38	0.49	0.39	0.17	0.34	0.28	0.20	0.23	0.28	1.03	0.36	0.36	0.55
38	0.88	0.38	0.88	0.38	-2.04	0.31	0.31	0.71	0.36	0.38	0.10	0.65	0.44	-0.80
39	0.57	0.36	0.58	0.37	-0.29	0.45	0.36	-0.29	0.50	0.22	-0.14	0.39	0.23	0.17
40	0.90	0.33	0.90	0.34	-2.39	0.43	0.34	-0.15	0.32	0.23	0.38	0.27	0.36	1.39

Table 4.A.5: Item-by-item P-Plus, Point R-Biserial and B-value for Mathematics (High School Math, Integrated Math I, Integrated Math II and Integrated Math III) [continued]

Items	High School Mathematics					Integrated Math I			Integrated Math II			Integrated Math III		
	Grade 11 P+	Grade 11 R-Bis	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value
41	0.83	0.47	0.84	0.47	-1.59	0.25	0.35	0.94	0.37	0.29	0.20	0.58	0.39	-0.45
42	0.71	0.38	0.73	0.39	-1.02	0.25	0.16	0.99	0.22	0.28	0.91	0.18	0.29	2.22
43	0.61	0.48	0.63	0.49	-0.54	0.41	0.40	0.02	0.23	0.34	0.87	0.50	0.41	0.09
44	0.68	0.41	0.69	0.42	-0.82	0.33	0.37	0.20	0.35	0.39	0.37	0.39	0.39	0.35
45	0.59	0.36	0.60	0.36	-0.24	0.26	0.35	0.57	0.65	0.42	-1.10	0.56	0.49	-0.54
46	0.47	0.26	0.48	0.26	0.41	0.27	0.30	0.26	0.35	0.33	0.67	0.65	0.19	-0.68
47	0.47	0.36	0.48	0.37	0.18	0.34	0.29	-0.31	0.39	0.30	0.08	0.54	0.43	-0.29
48	0.70	0.44	0.71	0.45	-0.85	0.19	0.16	1.23	0.30	0.20	0.61	0.32	0.32	0.58
49	0.55	0.32	0.57	0.33	-0.33	0.41	0.43	-0.10	0.33	0.21	0.36	0.43	0.39	-0.15
50	0.62	0.45	0.63	0.46	-0.65	0.26	0.24	0.62	0.43	0.27	-0.18	0.32	0.39	0.84
51	0.49	0.41	0.51	0.42	0.15	0.53	0.43	-1.05	0.45	0.49	-0.47	0.52	0.29	-0.49
52	0.42	0.43	0.44	0.44	0.54	0.36	0.37	0.10	0.35	0.31	0.42	0.51	0.37	-0.37
53	0.76	0.46	0.77	0.46	-1.17	0.48	0.32	-0.56	0.52	0.31	-0.51	0.47	0.45	-0.06
54	0.66	0.56	0.68	0.57	-0.63	0.33	0.32	0.17	0.33	0.11	0.42	0.63	0.38	-0.87
55	0.56	0.57	0.58	0.58	-0.19	0.32	0.13	0.47	0.60	0.52	-1.22	0.57	0.40	-0.78
56	0.63	0.47	0.65	0.48	-0.53	0.16	0.11	1.33	0.66	0.47	-1.49	0.51	0.31	-0.34
57	0.66	0.52	0.68	0.52	-0.73	0.18	-0.02	1.20	0.22	0.16	1.21	0.52	0.44	-0.74
58	0.68	0.42	0.69	0.42	-0.79	0.36	0.22	-0.03	0.32	0.33	0.45	0.35	0.38	0.40
59	0.50	0.44	0.51	0.45	-0.05	0.12	0.06	1.84	0.44	0.21	-0.06	0.46	0.40	-0.45
60	0.57	0.37	0.59	0.38	-0.27	0.30	0.07	0.72	0.50	0.33	-0.28	0.39	0.30	0.38
61	0.59	0.42	0.60	0.43	-0.40	0.23	0.11	0.79	0.23	0.16	0.88	0.55	0.31	-0.28
62	0.62	0.55	0.64	0.55	-0.52	0.19	0.04	1.41	0.39	0.20	0.12	0.46	0.31	-0.05
63	0.62	0.42	0.64	0.43	-0.47	0.35	0.25	0.18	0.32	0.29	0.18	0.57	0.34	-0.18
64	0.55	0.49	0.57	0.50	-0.16	0.47	0.25	-0.30	0.34	0.30	0.47	0.52	0.36	-0.85
65	0.67	0.48	0.69	0.49	-0.77	0.22	0.17	0.84	0.67	0.35	-1.54			

Table 4.A.6: Item-by-item P-Plus, Point R-Biserial and B-value for History and Science (Grade 5 and Biology)

Items	History Grade 8			History Grade 10			History Grade 11			Items	Grade 5 Science			Biology		
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value		P+	R-Bis	B-value	P+	R-Bis	B-value
1	0.60	0.37	-0.37	0.74	0.46	-1.06	0.48	0.42	0.18	1	0.48	0.35	-0.21	0.86	0.39	-2.14
2	0.39	0.39	0.57	0.48	0.38	0.05	0.40	0.44	0.53	2	0.69	0.40	-1.08	0.51	0.27	-0.16
3	0.78	0.31	-1.37	0.38	0.36	0.62	0.36	0.33	0.67	3	0.32	0.31	0.55	0.75	0.44	-1.32
4	0.50	0.26	0.07	0.64	0.24	-0.62	0.60	0.35	-0.36	4	0.83	0.40	-1.90	0.54	0.38	-0.26
5	0.45	0.19	0.20	0.51	0.34	-0.02	0.49	0.39	0.07	5	0.38	0.25	0.18	0.43	0.26	0.07
6	0.34	0.09	0.64	0.48	0.51	0.19	0.50	0.35	0.01	6	0.45	0.34	-0.10	0.51	0.30	-0.20
7	0.45	0.34	0.28	0.48	0.48	0.20	0.48	0.42	0.17	7	0.49	0.33	-0.24	0.81	0.41	-1.73
8	0.34	0.33	0.75	0.42	0.33	0.44	0.43	0.41	0.36	8	0.35	0.28	0.42	0.62	0.50	-0.61
9	0.57	0.42	-0.24	0.45	0.29	0.29	0.52	0.27	-0.02	9	0.49	0.29	-0.28	0.66	0.47	-0.81
10	0.39	0.38	0.70	0.49	0.39	0.09	0.77	0.41	-1.29	10	0.34	0.20	0.31	0.87	0.42	-2.19
11	0.41	0.33	0.49	0.36	0.24	0.80	0.39	0.29	0.51	11	0.51	0.36	-0.29	0.57	0.39	-0.41
12	0.43	0.41	0.40	0.55	0.47	-0.14	0.37	0.38	0.63	12	0.38	0.29	0.18	0.40	0.27	0.42
13	0.44	0.18	0.24	0.66	0.56	-0.69	0.58	0.39	-0.31	13	0.53	0.36	-0.45	0.54	0.40	-0.36
14	0.24	0.19	1.26	0.65	0.52	-0.64	0.65	0.36	-0.77	14	0.49	0.31	-0.23	0.38	0.24	0.40
15	0.42	0.42	0.39	0.42	0.35	0.44	0.52	0.42	-0.06	15	0.25	0.21	0.87	0.48	0.37	-0.02
16	0.25	0.30	1.25	0.74	0.48	-1.10	0.48	0.46	0.11	16	0.32	0.26	0.54	0.70	0.38	-1.10
17	0.53	0.37	-0.06	0.48	0.23	0.05	0.55	0.40	-0.19	17	0.41	0.23	0.00	0.53	0.41	-0.20
18	0.64	0.36	-0.58	0.70	0.48	-0.87	0.81	0.40	-1.65	18	0.57	0.32	-0.66	0.34	0.27	0.58
19	0.31	0.22	0.80	0.58	0.46	-0.28	0.54	0.37	-0.11	19	0.50	0.35	-0.39	0.48	0.41	0.04
20	0.58	0.38	-0.23	0.40	0.39	0.56	0.61	0.53	-0.36	20	0.43	0.35	0.04	0.42	0.35	0.26
21	0.57	0.37	-0.24	0.48	0.40	0.16	0.38	0.42	0.59	21	0.24	0.22	0.92	0.45	0.47	0.13
22	0.61	0.48	-0.29	0.60	0.44	-0.35	0.50	0.39	0.06	22	0.45	0.26	-0.16	0.52	0.45	-0.21
23	0.56	0.22	-0.31	0.49	0.37	0.20	0.56	0.36	-0.28	23	0.56	0.36	-0.55	0.42	0.25	0.27
24	0.43	0.40	0.39	0.61	0.56	-0.41	0.54	0.42	-0.03	24	0.69	0.44	-1.14	0.42	0.45	0.30
25	0.38	0.25	0.51	0.37	0.27	0.70	0.66	0.37	-0.78	25	0.54	0.32	-0.54	0.64	0.45	-0.76
26	0.37	0.25	0.71	0.53	0.40	0.02	0.36	0.32	0.71	26	0.43	0.26	-0.08	0.57	0.52	-0.43
27	0.62	0.49	-0.41	0.49	0.45	0.10	0.55	0.37	-0.14	27	0.42	0.30	0.07	0.54	0.41	-0.28
28	0.50	0.41	0.06	0.52	0.51	0.05	0.38	0.37	0.66	28	0.48	0.33	-0.16	0.54	0.30	-0.22
29	0.57	0.47	-0.16	0.40	0.33	0.56	0.47	0.32	0.12	29	0.48	0.23	-0.43	0.62	0.48	-0.64
30	0.58	0.41	-0.31	0.59	0.47	-0.33	0.36	0.32	0.73	30	0.58	0.39	-0.56	0.46	0.31	0.05
31	0.56	0.39	-0.19	0.40	0.46	0.59	0.42	0.30	0.36	31	0.50	0.43	-0.19	0.38	0.22	0.51
32	0.53	0.42	-0.07	0.51	0.36	-0.03	0.40	0.32	0.49	32	0.52	0.38	-0.32	0.32	0.26	0.75
33	0.53	0.38	-0.08	0.43	0.42	0.29	0.69	0.43	-0.95	33	0.49	0.31	-0.24	0.58	0.49	-0.43
34	0.38	0.28	0.54	0.48	0.55	0.14	0.44	0.19	0.12	34	0.63	0.36	-0.88	0.44	0.35	0.15
35	0.43	0.41	0.39	0.49	0.44	0.04	0.42	0.32	0.37	35	0.56	0.25	-0.61	0.42	0.29	0.25
36	0.39	0.34	0.52	0.43	0.50	0.36	0.36	0.30	0.70	36	0.44	0.46	-0.02	0.52	0.42	-0.21
37	0.23	0.20	1.23	0.39	0.29	0.50	0.81	0.47	-1.60	37	0.39	0.20	0.07	0.42	0.30	0.24
38	0.54	0.46	-0.13	0.30	0.28	1.09	0.57	0.43	-0.21	38	0.25	0.19	0.83	0.29	0.24	0.86
39	0.38	0.42	0.70	0.49	0.43	0.15	0.42	0.40	0.52	39	0.76	0.26	-1.68	0.56	0.48	-0.37
40	0.44	0.37	0.43	0.40	0.26	0.62	0.51	0.48	0.02	40	0.39	0.32	0.16	0.52	0.43	-0.16

Table 4.A.6: Item-by-item P-Plus, Point R-Biserial and B-value for History and Science (Grade 5 and Biology) [continued]

Items	History Grade 8			History Grade 10			History Grade 11			Items	Grade 5 Science			Biology		
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value		P+	R-Bis	B-value	P+	R-Bis	B-value
41	0.75	0.39	-1.13	0.53	0.48	-0.15	0.26	0.30	1.13	41	0.41	0.36	0.13	0.63	0.29	-0.75
42	0.55	0.38	-0.13	0.38	0.23	0.62	0.25	0.27	1.30	42	0.41	0.45	0.21	0.55	0.37	-0.28
43	0.46	0.27	0.27	0.46	0.45	0.26	0.47	0.43	0.20	43	0.68	0.38	-1.18	0.53	0.52	-0.16
44	0.40	0.30	0.45	0.44	0.40	0.30	0.52	0.37	-0.04	44	0.23	0.24	1.02	0.57	0.40	-0.44
45	0.58	0.43	-0.30	0.44	0.44	0.31	0.42	0.46	0.47	45	0.41	0.33	0.12	0.57	0.39	-0.43
46	0.50	0.30	0.05	0.31	0.30	0.95	0.49	0.40	0.07	46	0.52	0.38	-0.37	0.55	0.43	-0.34
47	0.59	0.39	-0.33	0.39	0.24	0.59	0.31	0.41	0.96	47	0.50	0.40	-0.20	0.50	0.42	-0.08
48	0.54	0.27	-0.26	0.49	0.43	0.11	0.54	0.38	-0.15	48	0.38	0.30	0.25	0.47	0.31	0.01
49	0.52	0.50	-0.05	0.58	0.43	-0.34	0.61	0.41	-0.42	49	0.43	0.42	0.07	0.69	0.36	-1.04
50	0.46	0.44	0.34	0.57	0.39	-0.32	0.39	0.31	0.56	50	0.51	0.33	-0.40	0.61	0.48	-0.61
51	0.60	0.46	-0.44	0.54	0.42	-0.11	0.50	0.46	0.03	51	0.43	0.35	0.00	0.55	0.51	-0.34
52	0.58	0.49	-0.29	0.39	0.41	0.51	0.37	0.47	0.77	52	0.38	0.28	0.26	0.42	0.37	0.27
53	0.45	0.40	0.28	0.43	0.30	0.42	0.72	0.55	-1.02	53	0.56	0.36	-0.53	0.47	0.47	-0.12
54	0.72	0.46	-0.94	0.45	0.30	0.35	0.57	0.49	-0.23	54	0.63	0.47	-0.92	0.42	0.30	0.27
55	0.60	0.44	-0.36	0.38	0.32	0.63	0.40	0.37	0.51	55	0.35	0.23	0.35	0.33	0.22	0.66
56	0.34	0.36	0.82	0.30	0.36	1.13	0.40	0.27	0.53	56	0.44	0.38	-0.05	0.51	0.47	-0.17
57	0.33	0.24	0.79	0.38	0.38	0.68	0.41	0.32	0.54	57	0.57	0.54	-0.53	0.40	0.30	0.32
58	0.45	0.48	0.31	0.29	0.19	1.14	0.45	0.40	0.29	58	0.52	0.37	-0.40	0.38	0.33	0.45
59	0.46	0.49	0.32	0.51	0.42	0.06	0.50	0.30	0.05	59	0.48	0.42	-0.16	0.51	0.34	-0.16
60	0.46	0.20	0.19	0.70	0.53	-0.94	0.50	0.48	-0.01	60	0.60	0.30	-0.80	0.59	0.47	-0.56
61	0.64	0.41	-0.57													
62	0.34	0.33	0.78													
63	0.40	0.39	0.57													
64	0.32	0.24	0.89													
65	0.48	0.38	0.19													
66	0.50	0.42	0.10													
67	0.49	0.39	0.10													
68	0.28	0.31	1.13													
69	0.50	0.44	0.07													
70	0.43	0.31	0.34													
71	0.33	0.32	0.86													
72	0.55	0.52	-0.14													
73	0.49	0.33	0.05													
74	0.31	0.21	0.85													
75	0.38	0.31	0.58													

Table 4.A.7: Item-by-item P-Plus, Point R-Biserial and B-value for Science (Chemistry, Earth Science, Physics, Integrated Science I, Integrated Science II, Integrated Science III and Integrated Science IV)

Items	Chemistry			Earth Science			Physics			Integrated Science I		Integrated Science II		Integrated Science III		Integrated Science IV	
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	P+	R-Bis	P+	R-Bis	P+	R-Bis
										0.32	0.37	0.50	0.44	0.33	0.16	0.61	0.43
1	0.76	0.29	-1.24	0.68	0.42	-0.90	0.57	0.52	-0.36	0.32	0.37	0.50	0.44	0.33	0.16	0.61	0.43
2	0.49	0.42	-0.01	0.48	0.26	0.11	0.76	0.25	-1.42	0.45	0.32	0.45	0.37	0.38	0.32	0.55	0.40
3	0.49	0.20	-0.09	0.52	0.40	0.01	0.44	0.20	0.09	0.46	0.28	0.37	0.26	0.83	0.34	0.51	0.30
4	0.53	0.38	-0.17	0.45	0.46	0.16	0.56	0.44	-0.53	0.37	0.34	0.40	0.36	0.40	0.32	0.32	0.26
5	0.46	0.29	0.03	0.45	0.29	0.38	0.63	0.44	-0.79	0.45	0.36	0.31	0.19	0.19	0.14	0.49	0.35
6	0.50	0.47	-0.08	0.56	0.51	-0.20	0.55	0.36	-0.39	0.45	0.42	0.44	0.39	0.36	0.20	0.81	0.45
7	0.50	0.47	-0.02	0.50	0.34	-0.05	0.52	0.39	-0.28	0.50	0.37	0.47	0.34	0.39	0.30	0.51	0.36
8	0.70	0.43	-0.95	0.57	0.44	-0.40	0.74	0.52	-1.29	0.29	0.26	0.40	0.27	0.38	0.29	0.51	0.39
9	0.57	0.34	-0.40	0.54	0.48	-0.16	0.64	0.39	-0.82	0.43	0.26	0.33	0.28	0.35	0.23	0.36	0.14
10	0.45	0.30	0.16	0.48	0.18	0.11	0.52	0.37	-0.29	0.49	0.34	0.25	0.24	0.21	0.25	0.26	0.32
11	0.64	0.34	-0.73	0.69	0.52	-0.84	0.56	0.37	-0.46	0.28	0.26	0.52	0.45	0.42	0.22	0.22	0.00
12	0.56	0.38	-0.36	0.53	0.41	-0.09	0.34	0.38	0.64	0.35	0.25	0.56	0.49	0.24	0.21	0.46	0.23
13	0.71	0.38	-1.07	0.75	0.47	-1.29	0.33	0.16	0.65	0.33	0.06	0.51	0.34	0.34	0.16	0.51	0.39
14	0.46	0.42	0.16	0.44	0.32	0.47	0.50	0.38	-0.11	0.54	0.40	0.38	0.25	0.31	0.21	0.59	0.50
15	0.73	0.35	-1.10	0.49	0.25	0.16	0.68	0.36	-0.93	0.69	0.46	0.50	0.33	0.24	0.31	0.54	0.31
16	0.43	0.37	0.16	0.37	0.39	0.66	0.42	0.59	0.32	0.37	0.25	0.51	0.43	0.34	0.15	0.50	0.49
17	0.56	0.38	-0.35	0.43	0.36	0.38	0.44	0.32	0.04	0.34	0.33	0.34	0.20	0.31	0.38	0.52	0.41
18	0.70	0.37	-0.94	0.36	0.22	0.73	0.63	0.39	-0.75	0.39	0.30	0.51	0.42	0.39	0.23	0.54	0.38
19	0.55	0.49	-0.25	0.57	0.52	-0.17	0.58	0.31	-0.53	0.54	0.43	0.42	0.39	0.21	0.26	0.40	0.38
20	0.53	0.46	-0.20	0.54	0.43	-0.16	0.42	0.57	0.31	0.35	0.20	0.41	0.36	0.59	0.40	0.23	0.08
21	0.68	0.44	-0.82	0.48	0.49	0.03	0.54	0.42	-0.30	0.42	0.31	0.45	0.46	0.28	0.16	0.41	0.35
22	0.38	0.44	0.48	0.50	0.24	0.07	0.44	0.40	0.09	0.44	0.21	0.32	0.12	0.27	0.28	0.63	0.35
23	0.29	0.26	0.97	0.42	0.25	0.30	0.70	0.56	-1.05	0.47	0.25	0.41	0.20	0.48	0.30	0.54	0.41
24	0.46	0.28	0.10	0.38	0.26	0.40	0.56	0.15	-0.45	0.47	0.37	0.59	0.39	0.58	0.40	0.34	0.21
25	0.52	0.27	-0.19	0.41	0.35	0.40	0.64	0.52	-0.70	0.33	0.35	0.10	0.10	0.43	0.30	0.22	0.10
26	0.62	0.36	-0.62	0.44	0.47	0.07	0.54	0.48	-0.31	0.27	0.24	0.30	0.20	0.56	0.26	0.28	0.26
27	0.64	0.45	-0.59	0.46	0.40	0.12	0.54	0.51	-0.30	0.37	0.21	0.12	0.12	0.41	0.42	0.40	0.21
28	0.40	0.52	0.49	0.53	0.35	-0.14	0.63	0.42	-0.72	0.58	0.38	0.42	0.29	0.51	0.33	0.70	0.37
29	0.44	0.33	0.20	0.46	0.25	0.24	0.72	0.39	-1.17	0.40	0.41	0.43	0.25	0.53	0.42	0.66	0.36
30	0.47	0.48	0.14	0.58	0.47	-0.32	0.42	0.37	0.28	0.43	0.40	0.55	0.43	0.46	0.36	0.31	0.19
31	0.47	0.39	0.07	0.50	0.47	0.03	0.52	0.57	-0.22	0.45	0.32	0.37	0.27	0.33	0.19	0.51	0.40
32	0.56	0.38	-0.33	0.38	0.25	0.63	0.42	0.31	0.19	0.32	0.15	0.38	0.15	0.30	0.26	0.42	0.34
33	0.55	0.32	-0.25	0.40	0.24	0.48	0.41	0.31	0.28	0.42	0.41	0.37	0.37	0.33	0.32	0.55	0.47
34	0.64	0.41	-0.78	0.41	0.25	0.41	0.59	0.42	-0.49	0.30	0.15	0.39	0.24	0.49	0.46	0.51	0.37
35	0.46	0.33	0.09	0.49	0.38	0.14	0.57	0.54	-0.37	0.23	0.27	0.34	0.13	0.50	0.33	0.27	0.31
36	0.47	0.47	0.22	0.51	0.42	-0.01	0.46	0.52	0.01	0.23	0.19	0.56	0.29	0.35	0.21	0.34	0.14
37	0.47	0.39	0.08	0.48	0.35	0.01	0.59	0.44	-0.54	0.15	0.10	0.47	0.34	0.33	0.19	0.46	0.26
38	0.40	0.48	0.33	0.58	0.45	-0.36	0.45	0.48	0.14	0.45	0.34	0.38	0.41	0.41	0.21	0.27	0.11
39	0.63	0.49	-0.65	0.60	0.44	-0.47	0.51	0.46	-0.26	0.33	0.30	0.46	0.41	0.29	0.31	0.32	0.25
40	0.51	0.31	-0.24	0.43	0.43	0.24	0.38	0.39	0.57	0.36	0.17	0.32	0.27	0.33	0.16	0.41	0.47

Table 4.A.7: Item-by-item P-Plus, Point R-Biserial and B-value for Science (Chemistry, Earth Science, Physics, Integrated Science I, Integrated Science II, Integrated Science III and Integrated Science IV) [continued]

Items	Chemistry			Earth Science			Physics			Integrated Science I		Integrated Science II		Integrated Science III		Integrated Science IV	
	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	B-value	P+	R-Bis	P+	R-Bis	P+	R-Bis	P+	R-Bis
	41	0.39	0.42	0.44	0.42	0.42	0.49	0.41	0.42	0.28	0.33	0.15	0.45	0.45	0.22	0.35	0.62
42	0.31	0.25	0.77	0.49	0.42	0.08	0.56	0.47	-0.36	0.52	0.34	0.51	0.42	0.54	0.45	0.40	0.22
43	0.59	0.37	-0.33	0.41	0.39	0.51	0.42	0.50	0.28	0.28	0.19	0.41	0.46	0.31	0.23	0.38	0.35
44	0.38	0.38	0.52	0.36	0.34	0.73	0.42	0.31	0.32	0.53	0.42	0.36	0.27	0.24	0.05	0.34	0.35
45	0.31	0.24	0.78	0.52	0.40	-0.13	0.54	0.35	-0.35	0.43	0.28	0.29	0.29	0.26	0.21	0.49	0.37
46	0.64	0.42	-0.62	0.44	0.41	0.22	0.50	0.42	-0.16	0.37	0.23	0.50	0.35	0.33	0.30	0.35	0.28
47	0.70	0.51	-0.98	0.33	0.33	0.82	0.40	0.27	0.29	0.62	0.55	0.41	0.28	0.37	0.21	0.55	0.41
48	0.41	0.38	0.32	0.43	0.29	0.43	0.68	0.54	-0.90	0.40	0.41	0.62	0.51	0.19	0.22	0.44	0.48
49	0.46	0.53	0.17	0.31	0.24	1.04	0.59	0.51	-0.57	0.31	0.26	0.55	0.54	0.41	0.40	0.40	0.23
50	0.45	0.55	0.22	0.64	0.58	-0.60	0.36	0.32	0.61	0.39	0.30	0.43	0.36	0.39	0.31	0.42	0.33
51	0.48	0.31	0.04	0.27	0.22	1.53	0.38	0.29	0.34	0.38	0.29	0.42	0.24	0.47	0.42	0.19	0.04
52	0.41	0.24	0.35	0.33	0.30	0.76	0.34	0.48	0.63	0.42	0.34	0.33	0.22	0.47	0.43	0.27	0.25
53	0.57	0.50	-0.28	0.47	0.47	0.15	0.36	0.35	0.54	0.46	0.34	0.29	0.08	0.33	0.33	0.48	0.40
54	0.44	0.33	0.08	0.45	0.40	0.23	0.51	0.51	-0.12	0.33	0.15	0.30	0.30	0.23	0.29	0.28	0.16
55	0.51	0.40	-0.12	0.34	0.29	0.79	0.43	0.39	0.25	0.21	0.16	0.35	0.38	0.28	0.22	0.17	0.06
56	0.32	0.35	0.84	0.50	0.42	0.07	0.59	0.46	-0.57	0.38	0.31	0.27	0.25	0.25	0.34	0.42	0.31
57	0.29	0.32	0.93	0.38	0.42	0.57	0.42	0.49	0.21	0.28	0.21	0.30	0.22	0.39	0.23	0.44	0.29
58	0.48	0.46	0.06	0.48	0.53	0.11	0.64	0.42	-0.80	0.33	0.17	0.35	0.15	0.23	0.24	0.30	0.10
59	0.71	0.45	-1.07	0.40	0.32	0.44	0.57	0.53	-0.45	0.29	0.29	0.30	0.18	0.26	0.13	0.38	0.10
60	0.52	0.32	-0.20	0.36	0.26	0.60	0.41	0.22	0.22	0.33	0.18	0.34	0.14	0.41	0.16	0.22	0.00

Appendix 4.B

Table 4.B.1: Operational Items Exhibiting Significant Negative DIF

Test	Accession #	Form	Item #	Male-Female	White-American Indian	White-Asian	White-Pacific Islander	White-Filipino	White-Combined Asian	White-Hispanic	White-African American	Native English-English Learner
ELANGR02	FQ014660	0	8	C-	A	A	A	A	A	A	A	N/A for ELA
ELANGR03	FQ015963	0	22	A	A	C-	B-	C-	C-	C-	A	
ELANGR03	FQ006288	0	57	A	A	C-	A	C-	C-	A	B-	
ELANGR05	FQ018374	0	70	B-	A	A	B-	A	A	C-	A	
ELANGR06	FQ013491	0	7	A	A	C-	A	B-	C-	A	A	
ELANGR06	FM700168	0	55	A	A	C-	A	A	B-	A	A	
ELANGR06	FQ006458	0	81	A	A	C-	A	A	C-	A	A	
ELANGR07	FQ013569	0	1	A	A	B-	A	C-	B-	A	A	
ELANGR08	FM700583	0	17	A	A	C-	A	A	B-	A	A	
ELANGR09	FQ016011	0	13	B-	A	A	A	C-	A	B-	A	
ELANGR09	FQ006877	0	44	A	A	C-	A	B-	B-	A	A	
ELANGR10	FQ016116	0	36	A	A	C-	A	B-	C-	B-	A	
HISSGR08	FQ006044	0	40	C-	A	B	A	B	B	A	A	A
MATHGR03	FQ010508	0	29	A	A	C-	C-	C-	C-	B-	B-	C-
MATHGR03	FQ010413	0	37	A	A	A	A	A	A	A	A	C-
MATHGR04	FQ007443	0	38	A	A	B-	B-	C-	C-	C-	B-	C-
MATHGEOM	FQ004724	0	9	A	A	A	‡	A	A	A	A	C-
MATHGEOM	FQ004953	0	30	A	A	A	‡	A	A	A	A	C-
MATHGEOM	FQ004768	0	63	A	A	A	‡	A	A	A	A	C-
MATHALG2	FQ017784	0	15	A	‡	A	‡	B-	A	A	A	C-
MATHHIGH	FQ017784	0	57	A	‡	A	‡	A	A	A	A	C-
SCIEBIOL	FQ001666	0	10	A	A	C-	A	A	B-	A	A	B-
SCIEPHYS	FQ011748	0	37	C-	‡	A	‡	A	A	A	A	A
SCIEINT2	FQ016835	0	18	A	‡	A	‡	‡	A	A	A	C-
SCIEINT3	FQ011748	0	60	C-	‡	‡	‡	‡	‡	A	‡	B
SCIEINT4	FQ016724	0	16	C-	‡	‡	‡	‡	‡	A	‡	A

‡ Minimum sample size for DIF analysis not met.

Table 4.B.2: Field Test Items Exhibiting Significant Negative DIF

Test	Accession #	Form	Item #	Male-Female	White-American Indian	White-Asian	White-Pacific Islander	White-Filipino	White-Combined Asian	White-Hispanic	White-African American	Native English-English Learner
ELANGR02	VC029071	6	47	A	‡	C-	‡	A	C-	A	A	N/A for ELA
ELANGR02	VC029578	8	45	A	‡	C-	‡	C-	C-	A	A	
ELANGR03	VC029046	3	34	C-	‡	A	‡	‡	B-	C-	B-	
ELANGR03	VC029040	4	31	A	‡	A	‡	‡	A	A	C-	
ELANGR03	VC029039	4	33	A	‡	C-	‡	‡	B-	A	A	
ELANGR03	VC029133	5	31	A	‡	C-	‡	‡	B-	C-	A	
ELANGR03	VC029529	6	36	A	‡	C-	‡	‡	C-	A	A	
ELANGR03	VC029445	12	32	A	‡	C-	‡	‡	C-	A	A	
ELANGR04	VC029650	9	38	A	‡	C-	‡	‡	C-	A	A	
ELANGR07	VC029633	5	40	C-	‡	B-	‡	‡	B-	B-	A	
ELANGR07	VC029595	8	40	A	‡	C-	‡	‡	B-	A	B-	
ELANGR07	VC029769	10	40	A	‡	C-	‡	‡	B-	B-	A	
ELANGR07	VC028189	21	39	B-	‡	C-	‡	‡	C-	B-	B-	
ELANGR08	VC031052	13	43	C-	‡	A	‡	‡	A	B-	A	
ELANGR09	VC028300	16	41	B	‡	C-	‡	‡	C-	A	B-	C- A
ELANGR10	VC029495	7	79	C-	‡	A	‡	‡	A	A	A	
ELANGR10	VC028331	22	43	B-	‡	C-	‡	‡	B-	A	A	
HISSGR10	VC030344	20	29	A	‡	A	‡	‡	A	A	C-	
HISSGR11	VC030180	1	32	A	‡	B-	‡	‡	B-	A	A	C-
HISSGR11	VC030208	6	30	A	‡	A	‡	‡	A	A	C-	A
HISSGR11	VC030403	14	31	A	‡	A	‡	‡	A	A	C-	A
HISSGR11	VC030391	20	28	C-	‡	A	‡	‡	A	A	A	A
HISSGR11	VC030198	23	32	A	‡	A	‡	‡	A	A	A	C-
HISSGR11	VC030545	27	32	B-	‡	A	‡	‡	A	A	C-	A
MATHGR02	VC028345	2	32	A	‡	C-	‡	C-	C-	C-	B-	C-
MATHGR02	VC030986	8	34	A	‡	A	‡	A	A	B-	A	C-
MATHGR02	FQ010923	9	33	A	‡	A	‡	C-	A	A	A	A
MATHGR02	FQ010875	12	33	A	‡	A	‡	‡	A	A	A	C-
MATHGR02	VC028409	12	34	A	‡	B-	‡	‡	B-	B-	A	C-
MATHGR02	VC028772	14	32	C-	‡	B-	‡	A	A	A	A	A
MATHGR02	FQ010920	15	32	A	‡	A	‡	C-	A	A	A	A
MATHGR02	VC028544	17	31	C-	‡	A	‡	A	A	A	A	A
MATHGR03	VC028834	2	33	A	‡	A	‡	‡	A	A	A	C-
MATHGR03	VC028357	3	32	A	‡	B-	‡	‡	C-	B-	B-	A
MATHGR03	VC028356	5	31	A	‡	C-	‡	‡	C-	C-	B-	C-

Table 4.B.2: Field Test Items Exhibiting Significant Negative DIF (continued)

Test	Accession #	Form	Item #	Male-Female	White-American Indian	White-Asian	White-Pacific Islander	White-Filipino	White-Combined Asian	White-Hispanic	White-African American	Native English-English Learner
MATHGR03	VC028420	6	36	A	‡	B-	‡‡	‡‡	B-	B-	A	C-
MATHGR03	VC028454	7	33	A	‡	A	‡‡	‡‡	A	A	A	C-
MATHGR03	VC031012	14	35	A	‡	A	‡‡	C-	B-	A	A	A
MATHGR03	VC028657	17	33	C-	‡	A	‡‡	A	A	A	A	A
MATHGR04	FQ010928	14	36	C-	‡	A	‡‡	‡‡	A	B-	A	A
MATHGR04	VC028752	17	33	B-	‡	A	‡‡	‡‡	A	B-	C-	A
MATHGR06	VC028584	4	36	B	‡	A	‡‡	‡‡	A	A	B-	C-
MATHGR06	VC028561	14	32	A	‡	A	‡‡	‡‡	A	A	C-	B-
MATHGR06	VC028908	21	36	A	‡	A	‡‡	‡‡	A	A	A	C-
MATHGR07	VC028789	6	31	A	‡	C-	‡‡	‡‡	C-	B-	A	B-
MATHALG1	VC027508	20	32	C-	‡	A	‡‡	‡‡	A	B-	A	A
MATHALG2	VC029964	19	31	A	‡	C-	‡‡	‡‡	C-	‡‡	‡‡	‡‡
MATHALG2	VC029991	27	31	C-	‡	A	‡‡	‡‡	A	A	‡‡	‡‡
MATHALG2	VC030007	30	34	C-	‡	A	‡‡	‡‡	A	A	‡‡	‡‡
MATHHIGH	VC027732	5	35	C-	‡	B-	‡‡	‡‡	B-	A	‡‡	‡‡
MATHHIGH	VC029902	7	31	C-	‡	A	‡‡	‡‡	A	C-	‡‡	‡‡
SCIEGR05	VC030666	12	33	A	‡	A	‡‡	‡‡	A	B-	A	C-
SCIEBIOL	FQ001667	5	32	A	‡	C-	‡‡	‡‡	C-	A	A	A
SCIECHEM	FQ003104	12	30	A	‡	A	‡‡	‡‡	A	C-	‡‡	‡‡
SCIECHEM	FQ003088	20	30	A	‡	B-	‡‡	‡‡	C-	A	‡‡	‡‡
SCIECHEM	FQ002979	22	31	C-	‡	A	‡‡	‡‡	A	A	‡‡	‡‡
SCIECHEM	FQ003005	23	31	A	‡	A	‡‡	‡‡	A	C-	‡‡	‡‡

‡ Minimum sample size for DIF analysis not met.

Table 4.B.3: DIF Classifications for English-language Arts Grade 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
B-	0	0	0	0	2	3	0	0	1	2	0	0	0	0	0	0	0	0
A	63	98	64	100	55	86	62	97	57	89	60	94	64	100	63	98		
B+	0	0	0	0	5	8	2	3	5	8	3	5	0	0	1	2		
C+	0	0	0	0	2	3	0	0	1	2	1	2	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100		

Table 4.B.4: DIF Classifications for English-language Arts Grade 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	2	3	0	0	2	3	2	3	1	2	0	0	2	3
B-	0	0	0	0	0	0	1	2	1	2	0	0	0	0	1	2		
A	65	100	65	100	59	91	64	98	58	89	61	94	64	98	64	98		
B+	0	0	0	0	4	6	0	0	4	6	2	3	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 4.B.5: DIF Classifications for English-language Arts Grade 4 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	2	3	0	0	3	4	2	3	0	0	2	3		
A	76	100	76	100	70	92	75	99	69	91	70	92	76	100	74	97		
B+	0	0	0	0	3	4	1	1	2	3	3	4	0	0	0	0		
C+	0	0	0	0	1	1	0	0	2	3	1	1	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100		

Table 4.B.6: DIF Classifications for English-language Arts Grade 5 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
B-	3	4	0	0	3	4	1	1	2	3	0	0	0	0	0	0	0	0
A	72	96	75	100	65	87	70	93	67	89	69	92	74	99	73	97		
B+	0	0	0	0	4	5	4	5	4	5	3	4	0	0	2	3		
C+	0	0	0	0	3	4	0	0	2	3	3	4	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100

Table 4.B.7: DIF Classifications for English-language Arts Grade 6 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	3	4	0	0	0	0	2	3	0	0	0	0	3	4
B-	3	4	0	0	2	3	0	0	3	4	2	3	1	1	0	0		
A	72	96	75	100	65	87	72	96	69	92	67	89	73	97	74	99		
B+	0	0	0	0	2	3	3	4	1	1	1	1	1	1	1	1		
C+	0	0	0	0	3	4	0	0	2	3	3	4	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100

Table 4.B.8: DIF Classifications for English-language Arts Grade 7 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
B-	3	4	0	0	5	7	2	3	3	4	5	7	0	0	0	0		
A	73	96	76	100	66	87	71	93	68	89	67	88	75	99	76	100		
B+	0	0	0	0	3	4	2	3	1	1	2	3	1	1	0	0		
C+	0	0	0	0	2	3	1	1	3	4	2	3	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100	76	100

Table 4.B.9: DIF Classifications for English-language Arts Grade 8 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
B-	3	4	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	1
A	72	96	75	100	70	93	74	99	71	95	71	95	74	99	75	100	75	100
B+	0	0	0	0	3	4	0	0	3	4	2	3	1	1	0	0	0	0
C+	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100

Table 4.B.10: DIF Classifications for English-language Arts Grade 9 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	2
B-	1	1	0	0	2	3	0	0	2	3	3	4	1	1	0	0	0	3
A	73	97	75	100	70	93	74	99	69	92	70	93	74	99	75	100	75	100
B+	1	1	0	0	1	1	1	1	2	3	1	1	0	0	0	0	0	0
C+	0	0	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100

Table 4.B.11: DIF Classifications for English-language Arts Grade 10 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1
B-	0	0	0	0	1	1	1	1	3	4	1	1	1	1	0	0	0	0
A	75	100	75	100	66	88	73	97	66	88	67	89	73	97	75	100	75	100
B+	0	0	0	0	6	8	1	1	5	7	5	7	1	1	0	0	0	0
C+	0	0	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100

Table 4.B.12: DIF Classifications for English-language Arts Grade 11 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0		
A	73	97	75	100	71	95	75	100	73	97	73	97	74	99	75	100		
B+	2	3	0	0	3	4	0	0	2	3	2	3	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 4.B.13: DIF Classifications for History Social Science Grade 8 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
B-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
A	72	96	75	100	74	99	75	100	74	99	74	99	75	100	75	100	75	100	75	100		
B+	1	1	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
TOTAL	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100	75	100		

Table 4.B.14: DIF Classifications for History Social Science Grade 10 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
B-	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0			
A	60	100	60	100	60	100	60	100	58	97	60	100	60	100	60	100	60	100	60	100		
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
C+	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0			
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 4.B.15: DIF Classifications for History-Social Science Grade 11 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	3	
A	57	95	60	100	58	97	60	100	58	97	59	98	58	97	59	98	56	93		
B+	1	2	0	0	0	0	0	0	2	3	1	2	0	0	0	0	0	1	2	
C+	0	0	0	0	1	2	0	0	0	0	0	0	0	0	2	3	1	2	1	2
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.16: DIF Classifications for Mathematics Grade 2 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	1	2	0	0	1	2	1	2	0	0	1	2	1	2		
A	62	95	65	100	64	98	65	100	64	98	64	98	65	100	64	98	64	98		
B+	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.17: DIF Classifications for Mathematics Grade 3 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	2	1	2	1	2	0	0	0	0	0	0	2	3	2	3
B-	2	3	0	0	1	2	0	0	0	0	1	2	1	2	1	2	0	0		
A	61	94	65	100	63	97	62	95	61	94	63	97	64	98	64	98	63	97		
B+	2	3	0	0	0	0	2	3	3	5	0	0	0	0	0	0	0	0	0	
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.18: DIF Classifications for Mathematics Grade 4 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	1	2	1	2	1	2	0	0	1	2	1	2
B-	1	2	0	0	1	2	2	3	0	0	0	0	0	0	1	2	1	2		
A	64	98	65	100	63	97	63	97	64	98	64	98	64	98	64	98	63	97		
B+	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 4.B.19: DIF Classifications for Mathematics Grade 5 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
A	62	95	65	100	64	98	65	100	64	98	64	98	65	100	65	100	65	100	65	100
B+	1	2	0	0	1	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 4.B.20: DIF Classifications for Mathematics Grade 6 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0	0	0
A	61	94	65	100	59	91	64	98	62	95	60	92	65	100	65	100	65	100	65	100
B+	2	3	0	0	5	8	1	2	2	3	4	6	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 4.B.21: DIF Classifications for Mathematics Grade 7 Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	62	95	65	100	64	98	64	98	65	100	65	100	65	100	65	100	65	100	65	100
B+	1	2	0	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.22: DIF Classifications for General Mathematics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	2	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2
A	62	95	65	100	63	97	65	100	64	98	65	100	65	100	65	100	65	100	64	98
B+	2	3	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.23: DIF Classifications for Algebra I Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	3	0	0	0	0	1	2	1	2	0	0	0	0	0	0	1	2	1	2
A	62	95	65	100	64	98	63	97	64	98	64	98	65	100	64	98	64	98	64	98
B+	1	2	0	0	1	2	1	2	0	0	1	2	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.24: DIF Classifications for Geometry Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3	5	
B-	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2		
A	64	98	61	94	65	100	0	0	65	100	65	100	65	100	64	98	60	92				
B+	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	0	0	0	0	65	100	0	0	0	0	0	0	0	0	0	0	0			
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100		

Table 4.B.25: DIF Classifications for Algebra II Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	1	2	0	0	1	2	0	0	2	3	1	2	1	2	0	0	2	3			
A	63	98	0	0	63	98	0	0	62	97	63	98	63	98	64	100	58	91			
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	64	100	0	0	64	100	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100			

Table 4.B.26: DIF Classifications for High School Mathematics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
B-	2	3	0	0	0	0	0	0	2	3	0	0	1	2	1	2	3	5			
A	61	94	0	0	64	98	0	0	63	97	64	98	63	97	63	97	57	88			
B+	2	3	0	0	1	2	0	0	0	0	1	2	1	2	1	2	4	6			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	65	100	0	0	65	100	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100			

Table 4.B.27: DIF Classifications for Integrated Mathematics I Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.28: DIF Classifications for Integrated Mathematics II Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100
TOTAL	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100	65	100

Table 4.B.29: DIF Classifications for Integrated Mathematics III Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100
TOTAL	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100	64	100

Table 4.B.30: DIF Classifications for Grade 5 Science Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	
A	59	98	60	100	60	100	60	100	60	100	60	100	60	100	60	100	59	98	59	98
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.31: DIF Classifications for Biology Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
B-	0	0	0	0	2	3	1	2	1	2	2	2	3	0	0	0	0	1	2	
A	60	100	60	100	56	93	59	98	58	97	57	95	60	100	60	100	59	98		
B+	0	0	0	0	1	2	0	0	1	2	1	2	0	0	0	0	0	0	0	
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.32: DIF Classifications for Chemistry Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	4	7	
A	59	98	59	98	60	100	60	100	59	98	60	100	60	100	60	100	55	92		
B+	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.33: DIF Classifications for Earth Science Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	4	7	0	0	1	2	1	2	3	5	1	2	0	0	0	0	0	0	0	0
A	54	90	60	100	59	98	58	97	57	95	59	98	60	100	60	100	60	100	60	100
B+	2	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.34: DIF Classifications for Physics Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
B-	3	5	0	0	2	3	0	0	1	2	2	3	0	0	1	2	3	5			
A	53	88	0	0	52	87	0	0	58	97	57	95	60	100	59	98	56	93			
B+	3	5	0	0	6	10	0	0	1	2	1	2	0	0	0	0	1	2			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	60	100	0	0	60	100	0	0	0	0	0	0	0	0	0	0			
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	

Table 4.B.35: DIF Classifications for Integrated Science I Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	60	100	60	100	60	100	0	0	59	98	60	100	60	100	60	100	60	100	60	100
B+	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	60	100	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Table 4.B.36: DIF Classifications for Integrated Science II Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	
B-	0	0	0	0	3	5	0	0	0	0	4	7	0	0	0	0	0	1	2			
A	60	100	0	0	56	93	0	0	0	0	55	92	60	100	60	100	58	97				
B+	0	0	0	0	1	2	0	0	0	0	1	2	0	0	0	0	0	0	0			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	60	100	0	0	60	100	60	100	0	0	0	0	0	0	0	0	0			
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 4.B.37: DIF Classifications for Integrated Science III Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
B-	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	5	8		
A	54	90	0	0	0	0	0	0	0	0	0	0	0	0	56	93	0	0	49	82		
B+	3	5	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0	6	10		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	60	100	60	100	60	100	60	100	60	100	60	100	0	0	60	100	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 4.B.38: DIF Classifications for Integrated Science IV Operational Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
B-	4	7	0	0	0	0	0	0	0	0	0	0	0	0	5	8	0	0	4	7		
A	53	88	0	0	0	0	0	0	0	0	0	0	0	0	54	90	0	0	55	92		
B+	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	60	100	60	100	60	100	60	100	60	100	60	100	0	0	60	100	0	0		
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100		

Table 4.B.39: DIF Classifications for English-language Arts Grade 2 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	2	2	0	0	1	1	2	2	0	0	0	0	2	2
B-	0	0	1	1	4	4	0	0	5	5	2	2	0	0	0	0		
A	95	100	7	7	75	79	1	1	68	72	80	84	95	100	95	100		
B+	0	0	0	0	11	12	0	0	7	7	8	8	0	0	0	0		
C+	0	0	0	0	3	3	0	0	2	2	3	3	0	0	0	0		
Small N	0	0	87	92	0	0	94	99	12	13	0	0	0	0	0	0		
TOTAL	95	100	95	100	95	100	95	100	95	100	95	100	95	100	95	100		

Table 4.B.40: DIF Classifications for English-language Arts Grade 3 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	4	3	0	0	0	0	2	2	2	2	1	1	6	5
B-	1	1	0	0	9	8	0	0	2	2	10	8	2	2	3	3		
A	118	98	0	0	93	78	0	0	26	22	97	81	116	97	114	95		
B+	0	0	0	0	9	8	0	0	2	2	7	6	0	0	2	2		
C+	0	0	0	0	5	4	0	0	0	0	4	3	0	0	0	0		
Small N	0	0	120	100	0	0	120	100	90	75	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 4.B.41: DIF Classifications for English-language Arts Grade 4 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1
B-	1	1	0	0	4	3	0	0	3	3	3	3	3	3	1	1		
A	118	99	0	0	106	89	0	0	4	3	111	93	116	97	118	99		
B+	0	0	0	0	6	5	0	0	0	0	2	2	0	0	0	0		
C+	0	0	0	0	2	2	0	0	0	0	2	2	0	0	0	0		
Small N	0	0	119	100	0	0	119	100	112	94	0	0	0	0	0	0		
TOTAL	119	100	119	100	119	100	119	100	119	100	119	100	119	100	119	100		

Table 4.B.42: DIF Classifications for English-language Arts Grade 5 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	2	0	0	1	1	0	0	0	0	1	1	0	0	2	2		
A	111	98	0	0	101	89	0	0	13	12	102	90	113	100	110	97		
B+	0	0	0	0	9	8	0	0	0	0	9	8	0	0	1	1		
C+	0	0	0	0	2	2	0	0	0	0	1	1	0	0	0	0		
Small N	0	0	113	100	0	0	113	100	100	88	0	0	0	0	0	0		
TOTAL	113	100	113	100	113	100	113	100	113	100	113	100	113	100	113	100		

Table 4.B.43: DIF Classifications for English-language Arts Grade 6 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	1	0	0	5	3	0	0	3	2	4	3	0	0	7	5		
A	147	98	0	0	131	87	0	0	3	2	133	89	150	100	142	95		
B+	1	1	0	0	11	7	0	0	0	0	10	7	0	0	1	1		
C+	0	0	0	0	3	2	0	0	0	0	3	2	0	0	0	0		
Small N	0	0	150	100	0	0	150	100	144	96	0	0	0	0	0	0		
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100		

Table 4.B.44: DIF Classifications for English-language Arts Grade 7 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	3	2	0	0	0	0	1	1	0	0	0	0	4	3
B-	2	1	0	0	2	1	0	0	0	0	3	2	3	2	4	3		
A	143	97	1	1	133	90	0	0	2	1	136	92	145	98	144	97		
B+	2	1	0	0	8	5	0	0	0	0	5	3	0	0	0	0		
C+	0	0	0	0	2	1	0	0	0	0	3	2	0	0	0	0		
Small N	0	0	147	99	0	0	148	100	146	99	0	0	0	0	0	0		
TOTAL	148	100	148	100	148	100	148	100	148	100	148	100	148	100	148	100		

Table 4.B.45: DIF Classifications for English-language Arts Grade 8 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
B-	3	2	0	0	5	3	0	0	0	0	4	3	5	3	7	5		
A	144	96	0	0	135	90	0	0	6	4	139	93	145	97	143	95		
B+	2	1	0	0	8	5	0	0	0	0	5	3	0	0	0	0		
C+	0	0	0	0	2	1	0	0	0	0	2	1	0	0	0	0		
Small N	0	0	150	100	0	0	150	100	144	96	0	0	0	0	0	0		
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100		

Table 4.B.46: DIF Classifications for English-language Arts Grade 9 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1
B-	1	1	0	0	5	3	0	0	0	0	5	3	1	1	6	4		
A	145	97	1	1	117	79	1	1	1	1	121	81	148	99	143	96		
B+	3	2	0	0	23	15	0	0	0	0	20	13	0	0	0	0		
C+	0	0	0	0	3	2	0	0	0	0	2	1	0	0	0	0		
Small N	0	0	148	99	0	0	148	99	148	99	0	0	0	0	0	0		
TOTAL	149	100	149	100	149	100	149	100	149	100	149	100	149	100	149	100		

Table 4.B.47: DIF Classifications for English-language Arts Grade 10 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	1
B-	1	1	0	0	2	1	0	0	0	0	4	3	2	1	11	7		
A	143	96	1	1	125	84	1	1	1	1	130	87	145	97	135	91		
B+	4	3	0	0	17	11	0	0	0	0	12	8	1	1	3	2		
C+	0	0	0	0	4	3	0	0	0	0	3	2	1	1	0	0		
Small N	0	0	148	99	0	0	148	99	148	99	0	0	0	0	0	0		
TOTAL	149	100	149	100	149	100	149	100	149	100	149	100	149	100	149	100		

Table 4.B.48: DIF Classifications for English-language Arts Grade 11 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	4	3	0	0	0	0	3	2	4	3	6	4		
A	146	99	0	0	134	91	0	0	1	1	137	93	144	97	142	96		
B+	2	1	0	0	10	7	0	0	0	0	8	5	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	148	100	0	0	148	100	147	99	0	0	0	0	0	0		
TOTAL	148	100	148	100	148	100	148	100	148	100	148	100	148	100	148	100		

Table 4.B.49: DIF Classifications for History-Social Science Grade 8 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	1	0	0	5	3	0	0	0	0	1	1	1	1	3	2	4	2		
A	178	99	6	3	169	94	6	3	6	3	176	98	178	99	177	98	175	97		
B+	0	0	0	0	6	3	0	0	0	0	3	2	1	1	0	0	1	1		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	174	97	0	0	174	97	174	97	0	0	0	0	0	0	0	0		
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100		

Table 4.B.50: DIF Classifications for History-Social Science Grade 10 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
B-	2	1	0	0	1	1	0	0	0	0	1	1	1	1	6	3	6	3		
A	178	99	0	0	177	98	0	0	6	3	179	99	179	99	173	96	174	97		
B+	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	180	100	0	0	180	100	174	97	0	0	0	0	0	0	0	0		
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100		

Table 4.B.51: DIF Classifications for History-Social Science Grade 11 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	2	2	1	6	3
B-	5	3	0	0	2	1	0	0	0	0	1	1	1	1	14	8	6	3		
A	174	97	0	0	167	93	0	0	0	0	174	97	178	99	156	87	171	95		
B+	0	0	0	0	10	6	0	0	0	0	4	2	1	1	6	3	1	1		
C+	0	0	0	0	1	1	0	0	0	0	1	1	0	0	1	1	0	0		
Small N	0	0	180	100	0	0	180	100	180	100	0	0	0	0	0	0	0	0		
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100		

Table 4.B.52: DIF Classifications for Mathematics Grade 2 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	2	2	0	0	1	1	0	0	3	3	1	1	1	1	0	0	4	4	8	7
B-	2	2	0	0	4	4	0	0	3	3	1	1	4	4	8	7	3	3		
A	103	96	6	6	93	87	0	0	81	76	101	94	102	95	97	91	99	93		
B+	0	0	0	0	8	7	0	0	2	2	4	4	0	0	2	2	1	1		
C+	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	101	94	0	0	107	100	100	18	17	0	0	0	0	0	0	0		
TOTAL	107	100	107	100	107	100	107	100	107	100	107	100	107	100	107	100	107	100		

Table 4.B.53: DIF Classifications for Mathematics Grade 3 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	1	1	0	0	1	1	2	2	1	1	0	0	4	3	7	6
B-	7	6	1	1	7	6	0	0	0	0	5	4	4	3	3	3	6	5		
A	109	91	5	4	102	85	6	5	30	25	105	88	115	96	114	95	109	91		
B+	3	3	0	0	10	8	0	0	4	3	8	7	0	0	3	3	1	1		
C+	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0		
Small N	0	0	114	95	0	0	114	95	84	70	0	0	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 4.B.54: DIF Classifications for Mathematics Grade 4 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
B-	2	2	0	0	1	1	0	0	0	0	0	0	3	3	2	2	0	0		
A	114	95	6	5	113	94	6	5	11	9	114	95	117	98	116	97	120	100		
B+	2	2	0	0	5	4	0	0	1	1	6	5	0	0	1	1	0	0		
C+	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	114	95	0	0	114	95	108	90	0	0	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 4.B.55: DIF Classifications for Mathematics Grade 5 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	2	2	0	0	2	2	1	1	2	2	4	3	1	1	2	2	1	1		
A	117	98	6	5	114	95	5	4	10	8	111	93	119	99	116	97	119	99		
B+	1	1	0	0	3	3	0	0	0	0	3	3	0	0	2	2	0	0		
C+	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0	0	0		
Small N	0	0	114	95	0	0	114	95	108	90	0	0	0	0	0	0	0	0		
TOTAL	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100	120	100		

Table 4.B.56: DIF Classifications for Mathematics Grade 6 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	3	2
B-	1	1	0	0	2	1	0	0	0	0	3	2	0	0	6	4	3	2		
A	144	96	6	4	137	91	6	4	11	7	134	89	150	100	143	95	145	97		
B+	5	3	0	0	10	7	0	0	1	1	13	9	0	0	0	0	0	0		
C+	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	144	96	0	0	144	96	138	92	0	0	0	0	0	0	0	0		
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100		

Table 4.B.57: DIF Classifications for Mathematics Grade 7 Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	1
B-	3	2	0	0	1	1	0	0	0	0	0	0	2	1	3	2	4	3		
A	147	98	6	4	137	91	6	4	6	4	142	95	148	99	147	98	146	97		
B+	0	0	0	0	11	7	0	0	0	0	7	5	0	0	0	0	0	0		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	144	96	0	0	144	96	144	96	0	0	0	0	0	0	0	0		
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100		

Table 4.B.58: DIF Classifications for General Mathematics Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.59: DIF Classifications for Algebra I Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
B-	2	1	0	0	2	1	0	0	0	0	2	1	4	3	9	6	4	3		
A	147	98	0	0	144	96	0	0	0	0	146	97	146	97	140	93	145	97		
B+	0	0	0	0	4	3	0	0	0	0	2	1	0	0	1	1	1	1		
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Small N	0	0	150	100	0	0	150	100	150	100	0	0	0	0	0	0	0	0		
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100		

Table 4.B.60: DIF Classifications for Geometry Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	8	5	0	0	4	3	0	0	0	0	4	3	10	7	0	0	0	0	0	0
A	135	90	0	0	144	96	0	0	0	0	143	95	137	91	0	0	0	0	0	0
B+	7	5	0	0	2	1	0	0	0	0	3	2	3	2	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	150	100	0	0	150	100	150	100	0	0	0	0	150	100	150	100	150	100
TOTAL	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100

Table 4.B.61: DIF Classifications for Algebra II Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	2	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	3	2
B-	2	1	0	0	3	2	0	0	0	0	2	1	5	3	0	0	0	0	0	0	0
A	170	94	0	0	145	81	0	0	0	0	172	96	143	79	0	0	0	0	0	0	0
B+	6	3	0	0	7	4	0	0	0	0	5	3	2	1	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	180	100	24	13	180	100	180	100	0	0	30	17	180	100	180	100	180	100	0
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	0

Table 4.B.62: DIF Classifications for High School Mathematics Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2
B-	6	7	0	0	4	5	0	0	0	0	6	7	2	2	0	0	0	0	0	0	0
A	75	89	0	0	74	88	0	0	0	0	75	89	79	94	0	0	0	0	0	0	0
B+	1	1	0	0	5	6	0	0	0	0	2	2	2	2	0	0	0	0	0	0	0
C+	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Small N	0	0	84	100	0	0	84	100	84	100	0	0	0	0	84	100	84	100	84	100	0
TOTAL	84	100	84	100	84	100	84	100	84	100	84	100	84	100	84	100	84	100	84	100	0

Table 4.B.63: DIF Classifications for Integrated Mathematics I Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.64: DIF Classifications for Integrated Mathematics II Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.65: DIF Classifications for Integrated Mathematics III Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.66: DIF Classifications for Grade 5 Science Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	
B-	1	1	0	0	1	1	0	0	0	0	0	0	1	1	5	3	4	3				
A	143	99	6	4	141	98	6	4	11	8	143	99	143	99	139	97	139	97				
B+	0	0	0	0	2	1	0	0	1	1	1	1	0	0	0	0	0	0	0			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	138	96	0	0	138	96	132	92	0	0	0	0	0	0	0	0	0			
TOTAL	144	100	144	100	144	100	144	100	144	100	144	100	144	100	144	100	144	100	144	100		

Table 4.B.67: DIF Classifications for Biology Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C			
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.		
C-	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	
B-	1	1	0	0	8	4	0	0	0	0	7	4	1	1	4	2	3	2				
A	176	98	6	3	153	85	0	0	5	3	160	89	179	99	172	96	176	98				
B+	3	2	0	0	18	10	0	0	1	1	12	7	0	0	4	2	1	1				
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	174	97	0	0	180	100	174	97	0	0	0	0	0	0	0	0	0			
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100		

Table 4.B.68: DIF Classifications for Chemistry Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C		
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	
C-	1	1	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	4	2	
B-	3	2	0	0	12	7	0	0	0	0	9	5	7	4	0	0	0	0			
A	173	96	0	0	158	88	0	0	0	0	161	89	171	95	0	0	0	0			
B+	3	2	0	0	10	6	0	0	0	0	9	5	0	0	0	0	0	0			
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Small N	0	0	180	100	0	0	180	100	180	100	0	0	0	0	180	100	180	100			
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100			

Table 4.B.69: DIF Classifications for Earth Science Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	7	4	0	0	0	0	0	0	0	0	0	0	0	7	4	0	0	5	3	
A	169	94	0	0	0	0	0	0	0	0	0	0	0	173	96	0	0	168	93	
B+	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	180	100	180	100	180	100	180	100	180	100	180	100	0	0	180	100	0	0
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100

Table 4.B.70: DIF Classifications for Physics Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	174	97	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100
TOTAL	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100	180	100

Table 4.B.71: DIF Classifications for Integrated Science I Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	6	100	6	100	6	100	0	0	6	100	6	100	6	100	6	100	6	100	6	100
B+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	0	0	0	0	6	100	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.72: DIF Classifications for Integrated Science II Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	0	0	0
A	6	100	0	0	5	83	0	0	0	0	6	100	6	100	5	83	6	100	6	100
B+	0	0	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	6	100	0	0	6	100	6	100	0	0	0	0	0	0	0	0	0	0
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.73: DIF Classifications for Integrated Science III Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	5	83	0	0	0	0	0	0	0	0	0	0	0	0	6	100	0	0	6	100
B+	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	6	100	6	100	6	100	6	100	6	100	6	100	0	0	6	100	0	0
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Table 4.B.74: DIF Classifications for Integrated Science IV Field Test Items

DIF category	M-F		W-AmI		W-Asn		W-PacI		W-Fil		W-ComA		W-His		W-AfrA		E-ELnr		Total C	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
C-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B-	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	3	50	0	0	0	0	0	0	0	0	0	0	0	0	6	100	0	0	6	100
B+	2	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small N	0	0	6	100	6	100	6	100	6	100	6	100	6	100	0	0	6	100	0	0
TOTAL	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100	6	100

Appendix 4.C

Table 4.C.1: IRT B Values for English-language Arts Grade 2

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	21	-0.29	0.94	-2.18	1.36
Reading Comprehension	15	0.06	0.52	-1.15	0.94
Literary Response and Analysis	6	-0.08	0.43	-0.71	0.55
Written and Oral Language Conventions	14	-0.31	0.53	-1.14	0.64
Writing Strategies	8	0.07	0.38	-0.73	0.61
All operational items	64	-0.15	0.69	-2.18	1.36
Field test Items	95	0.18	0.75	-1.42	1.89

Table 4.C.2: IRT B Values for English-language Arts Grade 3

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	20	-0.63	0.78	-1.79	1.26
Reading Comprehension	15	-0.02	0.58	-0.76	1.14
Literary Response and Analysis	8	-0.62	0.66	-2.01	0.14
Written and Oral Language Conventions	13	-0.42	0.77	-2.24	0.70
Writing Strategies	9	0.15	0.39	-0.52	0.70
All operational items	65	-0.34	0.74	-2.24	1.26
Field test Items	120	0.05	0.79	-1.78	1.83

Table 4.C.3: IRT B Values for English-language Arts Grade 4

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	18	-0.36	0.78	-2.16	0.93
Reading Comprehension	15	0.17	0.65	-0.82	1.42
Literary Response and Analysis	9	0.31	0.67	-0.72	1.73
Written and Oral Language Conventions	18	-0.10	0.51	-1.18	0.67
Writing Strategies	15	0.17	0.54	-0.86	1.02
Writing Applications	1	1.46	0.00	1.46	1.46
All operational multiple-choice items	75	-0.01	0.68	-2.16	1.73
Field test Items	119	0.68	0.76	-1.06	2.31

Table 4.C.4: IRT B Values for English-language Arts Grade 5

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	14	-0.17	0.59	-1.21	0.65
Reading Comprehension	16	0.02	1.01	-2.70	1.17
Literary Response and Analysis	12	-0.48	0.72	-1.75	0.63
Written and Oral Language Conventions	17	-0.37	0.94	-2.07	1.75
Writing Strategies	16	0.11	0.48	-0.54	1.48
All operational items	75	-0.16	0.82	-2.70	1.75
Field test Items	113	0.60	0.88	-1.56	2.76

Table 4.C.5: IRT B Values for English-language Arts Grade 6

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	13	-0.35	0.66	-1.44	0.92
Reading Comprehension	17	0.23	0.65	-0.77	1.60
Literary Response and Analysis	12	0.03	0.53	-0.81	0.88
Written and Oral Language Conventions	16	-0.58	0.92	-1.82	1.98
Writing Strategies	17	0.35	0.48	-0.41	1.24
All operational items	75	-0.05	0.76	-1.82	1.98
Field test Items	150	0.48	0.68	-1.43	2.31

Table 4.C.6: IRT B Values for English-language Arts Grade 7

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	11	-0.01	0.60	-0.60	1.32
Reading Comprehension	18	0.02	0.65	-1.15	1.08
Literary Response and Analysis	13	0.37	0.56	-0.63	1.21
Written and Oral Language Conventions	16	0.06	0.70	-1.03	1.14
Writing Strategies	17	0.35	0.55	-0.98	1.12
Writing Applications	1	0.91	0.00	0.91	0.91
All operational multiple-choice items	75	0.16	0.64	-1.15	1.32
Field test Items	148	0.81	0.74	-1.32	2.62

Table 4.C.7: IRT B Values for English-language Arts Grade 8

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	9	-0.34	0.69	-1.11	0.77
Reading Comprehension	18	-0.09	0.72	-1.26	1.12
Literary Response and Analysis	15	-0.07	0.64	-1.08	0.96
Written and Oral Language Conventions	16	0.02	0.72	-1.84	1.15
Writing Strategies	17	-0.28	0.68	-1.58	0.94
All operational items	75	-0.14	0.70	-1.84	1.15
Field test Items	150	0.35	0.73	-1.26	2.33

Table 4.C.8: IRT B Values for English-language Arts Grade 9

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.31	0.63	-1.04	0.98
Reading Comprehension	18	-0.03	0.74	-1.19	1.33
Literary Response and Analysis	16	0.19	0.75	-1.30	1.73
Written and Oral Language Conventions	13	-0.36	0.50	-1.10	0.83
Writing Strategies	20	0.07	0.59	-1.23	1.28
All operational items	75	-0.04	0.68	-1.30	1.73
Field test Items	149	0.55	0.81	-1.26	2.92

Table 4.C.9: IRT B Values for English-language Arts Grade 10

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.59	0.65	-1.64	0.25
Reading Comprehension	18	-0.22	0.56	-1.64	0.73
Literary Response and Analysis	16	0.24	0.39	-0.74	0.96
Written and Oral Language Conventions	13	-0.36	0.69	-1.31	0.69
Writing Strategies	20	-0.32	0.63	-1.54	0.75
All operational items	75	-0.21	0.64	-1.64	0.96
Field test Items	149	0.29	0.75	-1.28	2.25

Table 4.C.10: IRT B Values for English-language Arts Grade 11

Reporting Clusters	Num. of items	Mean	Standard Deviation	Minimum	Maximum
Word Analysis and Vocabulary	8	-0.51	0.50	-1.05	0.47
Reading Comprehension	19	-0.41	0.68	-2.02	0.79
Literary Response and Analysis	17	0.11	0.70	-1.66	1.20
Written and Oral Language Conventions	9	-0.41	0.67	-1.33	0.76
Writing Strategies	22	-0.16	0.55	-1.28	0.89
All operational items	75	-0.23	0.67	-2.02	1.20
Field test Items	147	0.39	0.64	-1.07	2.50

Table 4.C.11: IRT B Values for History-Social Science Grade 8

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
World History and Geography: Ancient Civilizations	16	0.29	0.63	-1.37	1.26
Late Antiquity and the Middle Ages	14	0.10	0.36	-0.41	0.71
Renaissance/Reformation	10	0.23	0.55	-0.58	1.23
U.S. Constitution and the Early Republic	22	0.13	0.53	-1.13	0.89
Civil War and Its Aftermath	13	0.20	0.49	-0.44	1.13
All operational items	75	0.18	0.53	-1.37	1.26
Field test Items	180	0.71	0.69	-1.39	2.55

Table 4.C.12: IRT B Values for History-Social Science Grade 10

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Development of Modern Political Thought	13	0.07	0.47	-1.06	0.80
Industrial Expansion and Imperialism	10	0.12	0.38	-0.41	0.70
Causes and Effects of the First World War	14	0.29	0.40	-0.64	1.09
Causes and Effects of the Second World War	13	0.03	0.55	-1.10	0.95
International Developments in the Post-World War II Era	10	0.25	0.67	-0.94	1.14
All operational items	60	0.15	0.51	-1.10	1.14
Field test Items	180	0.67	0.59	-1.03	2.17

Table 4.C.13: IRT B Values for History-Social Science Grade 11

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Foundations of American Political and Social Thought	10	0.03	0.52	-1.29	0.67
Industrialization and the U.S. Role as a World Power	13	-0.02	0.70	-1.65	1.30
United States Between the World Wars	12	0.08	0.53	-0.95	0.73
World War II and Foreign Affairs	12	0.21	0.67	-1.60	1.13
Post-World War II Domestic Issues	13	0.11	0.48	-1.02	0.77
All operational items	60	0.09	0.59	-1.65	1.30
Field test Items	180	0.60	0.61	-0.89	2.79

Table 4.C.14: IRT B Values for Mathematics Grade 2

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Place Value, Addition, and Subtraction	14	-0.50	0.63	-1.36	0.62
Multiplication, Division, and Fractions	24	-0.75	0.75	-2.23	1.05
Algebra and Functions	6	-1.03	0.94	-2.22	0.15
Measurement and Geometry	14	-1.30	1.01	-3.30	0.32
Statistics, Data Analysis, and Probability	7	-0.83	1.11	-2.33	1.15
All operational items	65	-0.85	0.90	-3.30	1.15
Field test Items	107	-1.11	1.22	-3.43	2.47

Table 4.C.15: IRT B Values for Mathematics Grade 3

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Place Value, Fractions and Decimals	16	-0.06	0.81	-1.77	1.34
Addition, Subtraction, Multiplication, and Division	16	-0.30	0.57	-1.77	0.85
Algebra and Functions	12	-0.52	0.83	-2.42	0.69
Measurement and Geometry	16	-0.47	0.97	-2.27	1.00
Statistics, Data Analysis, and Probability	5	-0.64	0.97	-2.12	0.54
All operational items	65	-0.35	0.84	-2.42	1.34
Field test Items	120	-0.30	1.23	-3.38	2.93

Table 4.C.16: IRT B Values for Mathematics Grade 4

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Decimals, Fractions, and Negative Numbers	17	-0.69	0.99	-3.26	1.02
Operations and Factoring	14	-0.29	0.33	-0.97	0.10
Algebra and Functions	18	-0.39	0.56	-1.67	0.45
Measurement and Geometry	12	-0.05	0.53	-0.84	1.26
Statistics, Data Analysis, and Probability	4	-0.72	0.89	-1.87	0.30
All operational items	65	-0.40	0.72	-3.26	1.26
Field test Items	120	0.33	1.07	-1.90	2.63

Table 4.C.17: IRT B Values for Mathematics Grade 5

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Estimation, Percents, and Factoring	12	-0.01	0.94	-1.77	1.81
Operations with Fractions and Decimals	17	0.00	0.61	-1.00	1.06
Algebra and Functions	17	-0.32	0.94	-2.15	0.81
Measurement and Geometry	15	0.02	0.72	-1.74	1.08
Statistics, Data Analysis, and Probability	4	-0.98	1.44	-2.48	1.35
All operational items	65	-0.14	0.90	-2.48	1.81
Field test Items	120	0.34	1.04	-1.94	2.96

Table 4.C.18: IRT B Values for Mathematics Grade 6

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Ratios, Proportions, Percentages, and Negative Fractions	15	0.11	0.57	-0.88	1.13
Operations and Problem Solving with Fractions	10	-0.24	0.52	-1.09	0.68
Algebra and Functions	19	-0.46	0.82	-2.28	0.85
Measurement and Geometry	10	0.31	0.67	-0.47	1.84
Statistics, Data Analysis, and Probability	11	0.31	0.56	-0.71	1.21
All operational items	65	-0.05	0.73	-2.28	1.84
Field test Items	150	0.48	0.76	-1.12	2.82

Table 4.C.19: IRT B Values for Mathematics Grade 7

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Rational Numbers	14	0.06	0.87	-1.75	1.19
Exponents, Powers, and Roots	8	0.34	0.53	-0.24	1.46
Quantitative Relationships and Evaluating Expressions	10	-0.19	1.04	-2.21	1.19
Multi-step Problems, Graphing, and Functions	15	-0.14	0.62	-0.95	0.91
Measurement and Geometry	13	0.06	0.53	-0.78	1.06
Statistics, Data Analysis, and Probability	5	-0.59	0.69	-1.60	0.50
All operational items	65	-0.04	0.77	-2.21	1.46
Field test Items	150	0.93	0.73	-1.01	2.53

Table 4.C.20: IRT B Values for General Mathematics

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Rational Numbers	14	0.17	0.62	-1.26	1.04
Exponents, Powers, and Roots	10	0.50	0.50	0.00	1.80
Quantitative Relationships and Evaluating Expressions	11	-0.26	0.73	-1.64	1.21
Multi-step Problems, Graphing, and Functions	10	0.10	0.75	-1.32	1.47
Measurement and Geometry	11	0.44	0.57	-0.50	1.54
Statistics, Data Analysis, and Probability	9	0.06	0.92	-1.49	1.04
All operational items	65	0.17	0.73	-1.64	1.80
Field test Items	6	0.99	0.56	0.19	1.93

Table 4.C.21: IRT B Values for Algebra I

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Number Properties, Operations, and Linear Equations	17	-0.28	0.70	-1.77	0.91
Graphing and Systems of Linear Equations	14	0.32	0.41	-0.41	1.12
Quadratics and Polynomials	21	-0.01	0.75	-1.23	1.43
Functions and Rational Expressions	13	0.44	0.49	-0.75	1.24
All operational items	65	0.08	0.68	-1.77	1.43
Field test Items	150	0.69	0.64	-0.96	2.37

Table 4.C.22: IRT B Values for Geometry

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Logic and Geometric Proofs	22	-0.39	0.54	-1.36	0.89
Volume and Area Formulas	11	0.16	0.85	-1.76	1.20
Angle Relationships, Constructions, and Lines	17	-0.12	0.63	-1.48	1.24
Trigonometry	15	-0.34	0.71	-1.45	0.69
All operational items	65	-0.21	0.69	-1.76	1.24
Field test Items	150	-0.20	0.89	-2.40	2.34

Table 4.C.23: IRT B Values for Algebra II

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Polynomials and Rational Expressions	19	-0.75	0.96	-2.38	0.76
Quadratics, Conics, and Complex Numbers	17	-0.04	0.64	-1.37	0.92
Exponents and Logarithms	15	-0.38	0.42	-0.95	0.92
Series, Combinatorics, and Probability and Statistics	13	-0.06	0.73	-1.22	0.97
All operational items	64	-0.33	0.79	-2.38	0.97
Field test Items	180	0.03	0.92	-2.40	3.41

Table 4.C.24: IRT B Values for High School Mathematics

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Algebra I	18	-0.87	0.75	-2.65	0.47
Geometry	19	-0.73	0.88	-2.54	0.41
Algebra II	23	-0.72	0.76	-3.33	0.51
Probability and Statistics	5	0.19	0.72	-1.17	0.76
All operational items	65	-0.69	0.84	-3.33	0.76
Field test Items	84	0.29	1.27	-2.47	3.97

Table 4.C.25: IRT B Values for Integrated Mathematics I

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Number Properties, Operations, and Linear Equations	15	-0.40	0.57	-1.42	0.62
Graphing	9	0.02	0.30	-0.37	0.57
Quadratics and Polynomials	14	0.19	0.58	-0.67	1.23
Functions and Rational Expressions	7	0.76	0.34	0.20	1.34
Geometry	20	0.69	0.70	-1.03	1.84
All operational items	65	0.25	0.72	-1.42	1.84

Table 4.C.26: IRT B Values for Integrated Mathematics II

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Algebra I	20	0.00	0.93	-2.15	1.31
Logic and Geometric Proofs	21	0.02	0.67	-1.10	2.05
Angle Relationships, Constructions, and Lines	9	0.29	0.37	-0.47	0.76
Trigonometry	10	0.14	0.84	-1.49	1.14
Algebra II/Probability and Statistics	5	0.20	0.38	-0.28	0.88
All operational items	65	0.08	0.75	-2.15	2.05

Table 4.C.27: IRT B Values for Integrated Mathematics III

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Geometry	5	-0.69	0.79	-1.61	0.36
Polynomials and Rational Expressions	19	0.11	1.04	-1.75	2.22
Quadratics, Conics, and Complex Numbers	17	0.10	0.74	-0.90	1.47
Exponents and Logarithms	15	-0.28	0.46	-0.87	0.84
Series, Combinatorics, and Probability and Statistics	8	-0.04	0.48	-0.68	0.75
All operational items	64	-0.06	0.81	-1.75	2.22

Table 4.C.28: IRT B Values for Grade 5 Science

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Physical Sciences	18	-0.14	0.63	-1.90	0.87
Life Sciences	18	-0.15	0.48	-1.14	0.92
Earth Sciences	18	-0.23	0.60	-1.68	1.02
Investigation and Experimentation	6	-0.34	0.37	-0.88	0.07
All operational items	60	-0.19	0.56	-1.90	1.02
Field test Items	144	0.11	0.72	-1.82	1.74

Table 4.C.29: IRT B Values for Biology

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	0.12	0.36	-0.41	0.58
Cell Biology	9	0.05	0.39	-0.64	0.75
Genetics	18	-0.27	0.63	-2.14	0.66
Ecology and Evolution	16	-0.13	0.44	-1.10	0.86
Physiology	11	-0.69	0.72	-2.19	0.27
All operational items	60	-0.22	0.61	-2.19	0.86
Field test Items	180	0.33	0.73	-1.33	2.33

Table 4.C.30: IRT B Values for Chemistry

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.72	0.30	-1.24	-0.28
Atomic and Molecular Structure	8	-0.28	0.39	-1.07	0.03
Chemical Bonds, Biochemistry	9	-0.31	0.29	-0.78	0.14
Kinetics, Thermodynamics	14	0.05	0.57	-1.07	0.93
Chemical Reactions	13	0.09	0.49	-1.10	0.97
Conservation of Matter and Stoichiometry	10	0.06	0.50	-0.95	0.78
All operational items	60	-0.11	0.53	-1.24	0.97
Field test Items	180	0.19	0.88	-2.06	3.29

Table 4.C.31: IRT B Values for Earth Science

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	0.02	0.23	-0.47	0.22
Astronomy and Cosmology	12	0.02	0.38	-0.84	0.57
Solid Earth	14	0.14	0.36	-0.60	0.79
The Earth's Energy	28	0.27	0.55	-1.29	1.53
All operational items	60	0.17	0.47	-1.29	1.53
Field test Items	180	0.89	0.60	-0.96	2.77

Table 4.C.32: IRT B Values for Physics

Reporting Clusters	Number of items	Mean	Standard Deviation	Minimum	Maximum
Investigation and Experimentation	6	-0.32	0.32	-0.72	0.19
Motion and Forces	12	-0.50	0.49	-1.42	0.28
Conservation of Energy and Momentum	12	-0.20	0.50	-1.05	0.65
Heat and Thermodynamics	9	-0.32	0.61	-1.17	0.57
Waves	10	-0.21	0.35	-0.75	0.28
Electric and Magnetic Phenomena	11	0.24	0.33	-0.49	0.64
All operational items	60	-0.21	0.51	-1.42	0.65
Field test Items	180	0.35	0.82	-2.13	2.64

Table 4.C.33: IRT Model Data Fit Distribution for English-language Arts

Operational Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 9		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.														
A	Use	20	31%	17	26%	17	22%	20	27%	21	28%	19	25%	24	32%	17	23%	12	16%	13	17%
B	Use	19	30%	29	45%	32	42%	29	39%	29	39%	32	42%	35	47%	26	35%	33	44%	37	49%
C	Use	21	33%	15	23%	23	30%	21	28%	21	28%	21	28%	10	13%	31	41%	29	39%	22	29%
D	Review	2	3%	4	6%	2	3%	5	7%	3	4%	2	3%	5	7%	1	1%	1	1%	3	4%
F	Do not use	2	3%	0	0%	2	3%	0	0%	1	1%	2	3%	1	1%	0	0%	0	0%	0	0%
Total		64	100%	65	100%	76	100%	75	100%	75	100%	76	100%	75	100%	75	100%	75	100%	75	100%

Table 4.C.34: IRT Model Data Fit Distribution for History-Social Science Grades 8, 10, 11

Operational Items		Grade 8		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.
A	Use	34	45%	17	28%	21	35%
B	Use	21	28%	25	42%	31	52%
C	Use	18	24%	18	30%	7	12%
D	Review	1	1%	0	0%	1	2%
F	Do not use	1	1%	0	0%	0	0%
Total		75	100%	60	100%	60	100%

Table 4.C.35: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7

Operational Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Flag	Status	N	Pct.										
A	Use	37	57%	28	43%	21	32%	21	32%	22	34%	15	23%
B	Use	19	29%	25	38%	23	35%	24	37%	23	35%	27	42%
C	Use	8	12%	11	17%	19	29%	18	28%	17	26%	19	29%
D	Review	1	2%	0	0%	2	3%	0	0%	2	3%	3	5%
F	Do not use	0	0%	1	2%	0	0%	2	3%	1	2%	1	2%
Total		65	100%	65	100%	65	100%	65	100%	65	100%	65	100%

Table 4.C.36: IRT Model Data Fit Distribution for Mathematics End of Course Tests

Operational Items		General Mathematics		Algebra I		Geometry		Algebra II		High School Mathematics		Integrated Mathematics I		Integrated Mathematics II		Integrated Mathematics III	
		N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	14	22%	25	38%	8	12%	12	19%	15	23%	28	43%	36	55%	34	53%
B	Use	25	38%	21	32%	20	31%	16	25%	20	31%	9	14%	13	20%	13	20%
C	Use	23	35%	17	26%	31	48%	32	50%	28	43%	7	11%	6	9%	12	19%
D	Review	0	0%	1	2%	6	9%	2	3%	0	0%	0	0%	3	5%	1	2%
F	Do not use	3	5%	1	2%	0	0%	2	3%	2	3%	21	32%	7	11%	4	6%
Total		65	100%	65	100%	65	100%	64	100%	65	100%	65	100%	65	100%	64	100%

Table 4.C.37: IRT Model Data Fit Distribution for Science

Operational Items		Grade 5 Science		Biology		Chemistry		Earth Science		Physics	
		Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	28	47%	16	27%	17	28%	5	8%	13	22%
B	Use	22	37%	27	45%	10	17%	20	33%	15	25%
C	Use	10	17%	17	28%	33	55%	34	57%	28	47%
D	Review	0	0%	0	0%	0	0%	1	2%	3	5%
F	Do not use	0	0%	0	0%	0	0%	0	0%	1	2%
Total		60	100%	60	100%	60	100%	60	100%	60	100%

Table 4.C.38: IRT Model Data Fit Distribution for English-language Arts (field test)

Field Test Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
Flag	Status	N	Pct.	N	Pct.														
A	Use	23	24%	26	22%	23	19%	21	19%	30	20%	36	24%	30	20%	22	15%	29	19%
B	Use	21	22%	28	23%	26	22%	16	14%	39	26%	29	20%	31	21%	28	19%	38	26%
C	Use	36	38%	48	40%	44	37%	41	36%	52	35%	55	37%	66	44%	64	43%	51	34%
D	Review	5	5%	9	8%	8	7%	6	5%	14	9%	1	1%	3	2%	11	7%	8	5%
F	Do not use	10	11%	9	8%	18	15%	29	26%	15	10%	27	18%	20	13%	24	16%	23	15%
Total		95	100%	120	100%	119	100%	113	100%	150	100%	148	100%	150	100%	149	100%	149	100%

Table 4.C.39: IRT Model Data Fit Distribution for History (field test)

Field Test Items		Grade 8		Grade 10		Grade 11	
Flag	Status	N	Pct.	N	Pct.	N	Pct.
A	Use	40	22%	30	17%	23	13%
B	Use	34	19%	37	21%	42	23%
C	Use	37	21%	60	33%	78	43%
D	Review	0	0%	4	2%	3	2%
F	Do not use	69	38%	49	27%	34	19%
Total		180	100%	180	100%	180	100%

Table 4.C.40: IRT Model Data Fit Distribution for Mathematics Grade 2 through 7 (field test)

Field Test Items		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7	
Flag	Status	N	Pct.										
A	Use	44	41%	37	31%	24	20%	36	30%	35	23%	18	12%
B	Use	28	26%	30	25%	25	21%	26	22%	25	17%	36	24%
C	Use	26	24%	40	33%	42	35%	40	33%	60	40%	55	37%
D	Review	0	0%	3	3%	8	7%	1	1%	3	2%	1	1%
F	Do not use	9	8%	10	8%	21	18%	17	14%	27	18%	40	27%
Total		107	100%	120	100%	120	100%	120	100%	150	100%	150	100%

Table 4.C.41: IRT Model Data Fit Distribution for Mathematics End of Course Tests (field test)

Field Test Items		General Mathematics		Algebra I		Geometry		Algebra II		High School Mathematics	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	0	0%	15	10%	50	33%	66	37%	24	29%
B	Use	1	17%	32	21%	18	12%	32	18%	23	27%
C	Use	1	17%	63	42%	63	42%	48	27%	19	23%
D	Review	0	0%	2	1%	5	3%	4	2%	2	2%
F	Do not use	4	67%	38	25%	14	9%	30	17%	16	19%
Total		6	100%	150	100%	150	100%	180	100%	84	100%

Table 4.C.42: IRT Model Data Fit Distribution for Science (field test)

Field Test Items		Grade 5 Science		Biology		Chemistry		Earth Science		Physics	
Flag	Status	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
A	Use	35	24%	23	13%	41	23%	24	13%	56	31%
B	Use	48	33%	31	17%	60	33%	45	25%	36	20%
C	Use	22	15%	87	48%	54	30%	24	13%	47	26%
D	Review	0	0%	3	2%	3	2%	0	0%	1	1%
F	Do not use	39	27%	36	20%	22	12%	87	48%	40	22%
Total		144	100%	180	100%	180	100%	180	100%	180	100%

Chapter 5: Test-Level Analyses

This chapter summarizes the test-level statistics obtained for the spring 2004 administration of the California Standards Tests (CSTs). The test-level analyses included demographic distributions, scaled score distributions, reliability analyses including overall and sub-score reliabilities, standard errors of measurement (SEMs) and inter-correlations of reporting clusters, IRT-based conditional SEMs, accommodations summaries, inter-rater and generalizability analyses associated with the writing prompts for grades 4 and 7 ELA tests, and analyses of accuracy and consistency of performance level classifications.

Demographic Distributions

Summary statistics for all students and for subgroups based on grade, gender, ethnicity, language fluency, economic disadvantage and special education programs are presented in Tables 5.A.1 through 5.A.36. These tables include number of students tested for whom valid scores were available, mean scaled scores, standard deviation of scaled scores, percentages of students in various performance levels as well as mean percent correct scores within each reporting cluster. Note that the statistics in these tables differ slightly from the statewide statistics reported on the CDE web site because students testing with invalid scores are excluded rather than added into the below basic category.

The number of males testing was consistently higher than females for majority of the tests across the various subject areas. In a large number of cases, the number of males exceeded the number of females by 3 to 4%, however, the percentage was much higher for General Math, Integrated Math I and some of the upper level Science tests. On the other hand, considerably more females than males took the Geometry, Algebra II, High School Math, Biology and Chemistry CSTs. The largest difference between these numbers existed for Chemistry, where 18% more females than males took the test. The percentages of students classified into various performance levels as well as the mean scaled scores indicated that females performed considerably better than males across all ELA tests. These differences in performance were more significant at the higher grades. Males performed very similar to females on the History-Social Science CSTs for grades 8 and 11, and slightly higher than females on grade 10 History-Social Science CSTs. Males also performed slightly higher than females on the grade 2 and 3 Math tests while females outperformed males on the grade 4 to 7 Math CSTs (except for grade 6), General Math, Algebra I, and Integrated Math I CST. For all Science tests, males outperformed females, except for the Biology test where females performed slightly higher than males.

Among various ethnic groups, Hispanics constituted the largest testing population. The approximate percentage of Hispanic examinees remained 40 to 50%, followed by White examinees who constituted 30 to 40% of the examinee population. This pattern was observed for majority of the tests in all content areas. The Asian examinees constituted the next largest group (8-10%) with increasing numbers in the higher level assessments. In terms of performance, White, Asian and Filipino groups consistently scored higher than the other groups. In general, Hispanic and African American groups performed lower than the other groups especially on the higher level assessments.

The approximate proportion of students who requested special education services ranged from 8 to 10% for all ELA tests, low to middle level Mathematics tests, and the majority of Science tests. The exception to this pattern was General Mathematics where special education students constituted 14% of the overall examinee population. A considerably lower proportion of students requested special education services for Chemistry, Physics and for the majority of end-of-course Mathematics CSTs.

Accommodations Summary

The percentage of students utilizing various testing accommodations is presented in Appendix 5.B for every test. The data is organized into three sections within each table. First section presents the percentages of students for the total testing population. The next section presents the results for English-language learners⁶, and the final section presents the results for the population of special education students. Most accommodations are common across tests, one exception to this is the ELA grades 4 and 7 tests, which include accommodations related to the essays. Of those students making use of the accommodations, the largest percentage used IEP accommodations and the next largest percentage utilized accommodations related to English-language proficiency. Another accommodation used frequently was the use of readers or sign language experts in case of ELA. A large number of students made use of calculators for all middle and most of the higher-level Mathematics tests. Special Education students frequently made use of calculators regardless of the level of Math test taken. This pattern was consistent with previous years.

Score Distributions and Summary Statistics

Frequency distributions of scaled scores for the 36 CSTs are presented in Tables 5.C.1 through 5.C.5 in Appendix 5.C. These distributions indicate that, although CST scaled scores extend to 600 for all tests, for most tests very few students score higher than 510 or lower than 210. The policy of setting the highest possible raw score to 600 and the lowest possible score to 150 was introduced by the CDE prior to the 2003 administration. In years prior to 2003, CST scaled scores could extend as high as 752 and as low as 0. The distributions presented in Appendix 5.C indicate that similar to 2003, the scale truncation affected very few students in the current administration.

Reliability

Reliability focuses on the extent to which differences in test scores reflect true differences in the knowledge, ability, or skill being tested rather than fluctuations due to chance or factors other than those are being tested. The variance in the distributions of test scores – essentially, the differences among individuals – is partly due to real differences in the knowledge, skill, or

⁶ “English Language Learners” included “English Learners”, “Initially Fluent English Proficient” and “Re-designated Fluent English” examinees.

ability being tested (true score variance) and partly due to random errors in the measurement process (error variance). The number used to describe reliability is an estimate of the proportion of the total variance that is true variance. Several different ways of estimating this proportion exist. The estimates of reliability reported in this report are internal-consistency measures, which are derived from analysis of the consistency of the performance of individuals on items within a test (internal-consistency reliability). Therefore, they apply only to the test form being analyzed. They do not take into account form-to-form variation due to equating limitations or lack of parallelism, nor are they responsive to day-to-day variation due, for example, to state of health or testing environment. Reliability coefficients may range from 0 to 1. The higher the reliability coefficient for a set of scores, the more likely individuals would be to obtain very similar scores if they took another form of the test. The formula for the internal consistency reliability as measured by Cronbach's Alpha (Cronbach, 1951) is reported below:

$$\alpha = \frac{n}{n-1} \left[1 - \frac{\sum_{i=1}^n \sigma_i^2}{\sigma_x^2} \right] \quad (1)$$

where n is the number of items, σ_i^2 is the variance of scores on the i -th item, and σ_x^2 is the variance of the total score (sum of scores on the individual items).

The Standard Error of Measurement (SEM) provides a measure of score instability in the score metric. A student's true ability will fall within a range of their observed score \pm 1 SEM about 68 percent of the time. The Standard Error of Measurement was computed as follows:

$$\sigma_e = \sigma_x \sqrt{1 - \alpha} \quad (2)$$

where α is the reliability estimated using (1) above, and σ_x is the standard deviation of the total raw scores.

The results for the reliability analyses are presented in Appendix 5.D. The results in Table 5.D.1 indicated that all grade specific tests for both ELA and Math were highly reliable with reliabilities ranging from 0.92 to 0.94. The reliabilities for the higher-level Math and Science tests were also high and ranged from 0.87 to 0.93. Algebra I proved to be the least reliable (0.87) and High School Math the most reliable of the higher-level mathematics assessment (0.93). The reliabilities for the integrated tests were comparatively lower in general, ranging from 0.79 to 0.88. The Integrated Science I CST exhibited the lowest reliability of 0.79 with the lowest mean score of 21.98.

The raw score SEMs ranged from 3.16 for grade 2 Math to 3.89 for the grade 11 ELA test. The grade 2 Math test exhibited the smallest SEM of 3.16 with a reliability of 0.93 and highest mean raw score of 46.09.

Inter-correlations, Reliabilities, and SEMs for Reporting Cluster Sub-scores

For each CST, number-correct scores are compiled for four-to-six reporting clusters. Inter-correlations and reliability estimates for the reporting clusters are presented in Tables 5.D.2 to

5.D.5 for the 36 CSTs. Consistent with previous years, the reliabilities within reporting clusters varied significantly according to the number of items in each cluster. For example, the reliabilities for three of the reporting clusters in High School Summative Math were the highest among all tests. However, the fourth reporting cluster (Probability and Statistics) consisting of only five items had a coefficient Alpha of 0.59. Similar results were observed for inter-correlations among reporting clusters across the CSTs, that is, the reporting clusters based on fewer items tended to have lower inter-correlations with the other clusters.

For ELA, the reporting cluster “Word Analysis and Vocabulary” exhibited lower reliability at upper grade levels and higher reliability at the lower grade levels. The reporting cluster of “Writing Strategies”, however, exhibited the opposite pattern. Here, the reliability was low at lower grades and became higher as the grades progressed. In the case of Mathematics, the reporting clusters related to Number Sense and Algebra had consistently higher reliabilities across all grades. On the other hand, the reporting cluster related to Statistics and Probability had the lowest reliability across all grades. The sub-score reliabilities for the majority of the clusters in the end-of-course math tests remained equal to or lower than 0.75. A similar pattern was observed for the History and Science tests where only one cluster across all tests exhibited a reliability greater than 0.75. Since most of the clusters have less than 20 items, sub-score reliabilities were low in general.

Conditional Standard Errors of Measurement

As part of the IRT-based equating procedures, scaled score conversion tables and conditional standard errors of measurement (CSEMs) are produced. CSEMs for CST scale scores are based on item response theory and are calculated by the IRTEQUATE module in GENASYS.

Standard errors of measurement vary across the scale. When a test has cut scores it is important to provide CSEMs at the cut scores. Table 5.D.6 presents the scaled score CSEMs at the score levels defining below basic, basic, proficient, and advanced for each CST.⁷ These CSEMS tend to be similar within families of tests. The CSEMs tended to be higher at the advanced cut-points for all tests. For History and Mathematics tests, CSEMs remained high at the below basic cut-points as well. CSEMs remained consistently lower at the basic and proficient cut-points for all tests. This pattern was expected since (1) more items tend to be of middle difficulty and (2) items at the extremes still provide information toward the middle of the scale. This results in more precise scores in the middle of the scale and less precise scores in the extremes of the scale.

Essay and Rater Agreement Summary

English-language Arts CSTs for grades 4 and 7 each include a Constructed Response (CR) writing task in addition to the 75 multiple-choice questions. For each grade level, there are two different writing prompts administered at two different times in the STAR testing cycle. Students are given one of the two writing prompts depending upon which writing test

⁷ Scaled score CSEMs are not provided for the Integrated Science tests because these tests were not scaled using the same procedures as the other CSTs. See chapter 3 for additional details.

administration they sit for. In 2004, 479,021 students took the Writing section (and had valid ratings) in grade 4 and 480,199 took this test in grade 7. Two raters independently score responses on the essay prompt. It is important for reliable scoring that the two raters agree in the scoring of the essay prompt as much as possible. It is also important to look at the effect of the assigned writing prompt on the scores. For this purpose, two sets of analyses were performed: 1) Inter-rater agreement analyses, and 2) Generalizability Analyses.

The results of these analyses are presented in Appendix 5.E. The inter-rater reliability was found to be 0.76 for grade 4 and 0.70 for grade 7. As shown in Tables 5.E.1 and 5.E.2, the percentage of students for whom the raters were in exact agreement was 78% for grade 4 and 74% for grade 7. In order to look at the exact agreement beyond chance, Cohen's Kappa was also computed. The indices showed moderate levels of agreement beyond chance for both grades 4 and 7. The overall mean scores given by the two raters were very similar for grades 4 and 7 as presented in Table 5.E.3.

The score distributions on the writing task are presented in Tables 5.E.4 and 5.E.5 for grades 4 and 7 respectively. These distributions are also presented for various demographic groups.

Generalizability analyses were performed to quantify the proportion of variance explained by various possible sources of variation including raters, writing prompt and persons (desired variance). A generalizability study (g-study) was performed to estimate variance components for each source of variation also known as 'facet'. A decision study (d-study) was performed to estimate the generalizability coefficient. The well-known computer program, GENOVA, was used to carry out these analyses (Brennan, 2001; Crick & Brennan, 1983). Since two raters scored each student's response but each student did not receive the same prompt, a nested unbalanced design was studied as described below:

Design = (Person : Essay) x Rater

As shown in Tables 5.E.6 and 5.E.7, no significant variation was attributed to rater or writing prompt differences. Note that performance on the writing prompt was confounded with the sample of students who were administered the prompt; therefore, it is difficult to interpret this source of variation. The Generalizability coefficient was found to be 0.76 for grade 4 and 0.70 for grade 7.

Composite Reliability for Grades 4 and 7

The reliability of the total scores on ELA grade 4 and 7 (for the students who took the writing prompt) were computed by using the Composite reliability formula (Feldt & Brennan, 1989):

$$\alpha_c = 1 - \frac{\sum_{j=1}^k (w_j \sigma_{e_j})^2}{\sigma_c^2} \quad (3)$$

where k is the number of part scores in the composite, w_j is the weight associated with the j -th part score, σ_{e_j} is the SEM of the j -th part score, and σ_e^2 is the variance of the composite score.

The reliability of the essays can be found indirectly by examining the correlation between the MC and essay components in relation to the MC reliability. The lower bound reliability for a CR item in a test with multiple-choice items and only 1 CR item can be found using the squared correlation between the MC and essay (CR) portions of the test and dividing by the reliability of the MC portion of the test ($\text{Corr}_{\text{Essay-MC}}/\text{Rel}_{\text{MC}}$).

The SEM for the essay (i.e., the CR portion of the test) can then be found using:

$$\sigma_{e_{\text{CR}}} = \sigma_{\text{CR}} * \sqrt{1 - \text{reliability}_{\text{CR}}} \quad (4)$$

The reliabilities for the Multiple Choice scores were 0.94 and 0.93 for grades 4 and 7 respectively. The composite reliabilities for the combined MC and essay scores were 0.91 for both tests. The approximate lower bound reliabilities for essays were found to be 0.28 and 0.34 for grades 4 and 7 respectively.

Decision Classification Analyses

The methodology used for estimating the reliability of classification decisions is described in Livingston and Lewis (1995) and is implemented using the ETS-proprietary computer program RELCLASS-COMP (Version 4.12). RELCLASS-COMP estimates decision consistency using an estimated multivariate distribution of reported classifications on the current form of the exam and classifications on an alternate (parallel) form. RELCLASS-COMP also estimates decision accuracy using an estimated multivariate distribution of reported classifications on the current form of the exam and the classifications based on an all-forms average (true score). In each case, the proportion of classifications with exact agreement is the sum of the entries in the diagonal of the contingency table representing the multivariate distribution. Reliability of classification at a cut score is estimated by collapsing the multivariate distribution at the passing score boundary into a n by n table (where n is the number of performance levels) and summing the entries in the diagonal.

The results of these analyses are presented in Tables 5.F.1 to 5.F.38. in Appendix 5.F. The tables include the contingency tables for the various performance level classifications. The proportion of accurately classified students can be determined by summing across the diagonals of the upper tables; these proportions ranged from 0.69 to 0.79 across majority of the CSTs (for 33 out of 36 CSTs). The proportion of students that were classified consistently (diagonals of the lower tables) ranged from 0.59 to 0.71 across all performance levels for these CSTs. These lower overall magnitudes of decision accuracy and decision consistency are not surprising considering the numbers of performance levels that are reported for CST results. When the decisions are collapsed to below proficient versus proficient and above, which are the critical categories for Adequate Yearly Progress analyses, the proportion of students that were classified accurately ranged from 0.92 to 0.98. Similarly, the proportion of students that were classified consistently

ranged from 0.88 to 0.96 for students classified into below proficient versus proficient and advanced.

References

- Brennan, R.L. (2001). Generalizability Theory. New York: Springer Verlag.
- Brennan, R.L. (2001). Manual for GENOVA. Iowa City, IA: Iowa Testing Programs, University of Iowa.
- Crick, J.E. & Brennan, R.L. (1983). Manual for GENOVA: A generalized analysis of variance system (American College Testing Technical Bulletin No. 43). Iowa City, IA: ACT, Inc.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 292-334.
- Feldt, L. S. and Brennan, R. L. (1989) Reliability. In Linn, R. L. (ed.), Educational Measurement. New York: Macmillan.
- Livingston, S. A., and Lewis, C. (1995). Estimating the consistency and accuracy of classification based on test scores. Journal on Educational Measurement, 32, 179-197.

Appendix 5.A

Table 5.A.1: Demographic Summary for English-language Arts Grade 2

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	472,591	330	59	12%	22%	31%	23%	13%	60%	55%	59%	61%	55%
Male	241,054	326	58	14%	23%	30%	22%	11%	60%	54%	58%	59%	53%
Female	231,449	335	59	10%	20%	31%	25%	14%	61%	57%	61%	64%	57%
Gender unknown	88	309	64	31%	25%	15%	18%	11%	51%	48%	53%	51%	48%
American Indian	3,699	324	54	12%	24%	33%	22%	9%	59%	54%	59%	57%	53%
Asian American	36,929	365	60	4%	11%	25%	32%	28%	72%	67%	70%	77%	65%
Pacific Islander	2,860	333	52	7%	21%	37%	25%	10%	63%	56%	61%	64%	55%
Filipino	11,678	357	52	3%	11%	31%	36%	19%	71%	65%	69%	75%	62%
Hispanic	239,047	311	50	17%	29%	33%	17%	5%	54%	48%	51%	54%	48%
African American	35,770	319	53	14%	26%	33%	20%	7%	58%	50%	55%	56%	51%
White	138,192	356	59	6%	13%	28%	31%	22%	68%	66%	71%	70%	65%
Ethnicity unknown	4,416	339	61	11%	17%	30%	25%	16%	63%	59%	64%	63%	58%
English Only	258,969	343	59	8%	17%	30%	28%	17%	65%	61%	65%	66%	60%
Initially Fluent English Prof.	31,576	354	58	5%	13%	30%	31%	21%	68%	64%	68%	72%	62%
English Learner	174,187	306	49	19%	31%	32%	14%	4%	52%	46%	48%	53%	46%
Re-designated Fluent Eng.	6,823	359	53	3%	10%	31%	35%	21%	70%	66%	70%	75%	64%
English Prof. unknown	1,036	312	58	22%	24%	28%	18%	8%	54%	49%	54%	53%	49%
Not in NSLP	199,620	356	59	5%	13%	28%	31%	23%	69%	65%	70%	71%	64%
In NSLP	271,663	312	51	17%	28%	33%	17%	5%	55%	48%	51%	55%	48%
NSLP status unknown	1,308	311	58	22%	26%	28%	17%	7%	53%	48%	52%	53%	49%
Special Ed Services	35,441	298	55	30%	30%	23%	12%	5%	48%	44%	46%	47%	44%
No Special Ed Services	435,425	333	58	10%	21%	31%	24%	13%	62%	56%	60%	63%	56%
Special Ed unknown	1,725	309	56	21%	28%	29%	15%	7%	53%	48%	52%	52%	48%

Table 5.A.2: Demographic Summary for English-language Arts Grade 3

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	480,611	322	60	16%	22%	32%	22%	9%	65%	54%	65%	60%	50%
Male	244,891	316	59	18%	23%	31%	20%	8%	64%	53%	63%	58%	48%
Female	235,641	327	60	13%	21%	32%	23%	10%	67%	56%	67%	63%	52%
Gender unknown	79	298	56	30%	23%	28%	16%	3%	56%	46%	59%	52%	44%
American Indian	3,916	317	56	16%	23%	34%	20%	6%	65%	53%	65%	58%	49%
Asian American	37,513	356	63	6%	13%	28%	31%	22%	77%	65%	75%	71%	61%
Pacific Islander	3,023	323	53	11%	22%	38%	23%	6%	68%	55%	65%	61%	50%
Filipino	11,918	345	53	5%	14%	35%	33%	13%	75%	63%	73%	69%	57%
Hispanic	238,743	301	51	23%	29%	32%	14%	3%	58%	47%	58%	54%	44%
African American	37,351	306	53	21%	27%	33%	16%	4%	61%	49%	60%	54%	45%
White	143,953	349	59	7%	13%	31%	32%	17%	75%	64%	75%	68%	59%
Ethnicity unknown	4,194	330	62	14%	19%	30%	25%	12%	69%	57%	68%	62%	53%
English Only	264,752	335	60	11%	18%	32%	27%	12%	71%	59%	70%	64%	54%
Initially Fluent English Prof.	38,980	343	57	7%	16%	34%	29%	14%	73%	62%	73%	68%	57%
English Learner	160,892	291	47	28%	32%	30%	9%	2%	54%	43%	54%	51%	41%
Re-designated Fluent Eng.	15,022	357	48	2%	8%	36%	39%	15%	78%	67%	79%	73%	62%
English Prof. unknown	965	302	61	27%	26%	25%	16%	5%	58%	47%	59%	52%	45%
Not in NSLP	204,638	349	59	7%	13%	31%	32%	17%	75%	64%	75%	69%	59%
In NSLP	274,696	301	51	22%	29%	32%	14%	3%	58%	47%	58%	54%	44%
NSLP status unknown	1,277	300	59	28%	26%	25%	16%	5%	57%	47%	58%	52%	45%
Special Ed Services	41,805	285	58	41%	25%	20%	10%	4%	51%	42%	50%	46%	40%
No Special Ed Services	437,217	325	58	13%	22%	33%	23%	9%	67%	55%	67%	62%	51%
Special Ed unknown	1,589	301	59	27%	25%	27%	16%	5%	58%	47%	58%	53%	45%

Table 5.A.3: Demographic Summary for English-language Arts Grade 4

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	481,030	339	52	8%	18%	34%	23%	17%	64%	54%	50%	58%	53%
Male	244,964	334	52	10%	20%	34%	22%	15%	62%	52%	49%	56%	51%
Female	236,000	343	52	6%	16%	34%	25%	19%	65%	57%	52%	61%	55%
Gender unknown	66	314	50	18%	27%	30%	15%	9%	54%	44%	41%	51%	44%
American Indian	3,871	333	48	8%	19%	37%	23%	12%	63%	53%	49%	56%	51%
Asian American	38,288	369	55	3%	9%	24%	28%	35%	73%	66%	61%	70%	64%
Pacific Islander	3,040	337	47	5%	17%	40%	24%	13%	63%	53%	51%	59%	53%
Filipino	11,808	360	47	2%	8%	32%	32%	26%	72%	63%	57%	68%	62%
Hispanic	235,873	320	45	11%	25%	39%	18%	7%	56%	46%	44%	52%	47%
African American	38,860	324	47	11%	24%	37%	19%	9%	58%	48%	46%	53%	47%
White	145,911	362	51	3%	9%	28%	30%	29%	74%	66%	58%	66%	62%
Ethnicity unknown	3,379	346	55	7%	15%	31%	26%	21%	67%	59%	54%	60%	56%
English Only	264,745	350	52	5%	14%	31%	27%	23%	69%	60%	54%	62%	57%
Initially Fluent English Prof.	37,520	358	51	3%	11%	32%	29%	26%	71%	63%	57%	66%	60%
English Learner	151,209	308	39	15%	31%	40%	12%	3%	50%	40%	40%	48%	42%
Re-designated Fluent Eng.	26,759	367	41	1%	4%	29%	39%	27%	75%	68%	61%	70%	64%
English Prof. unknown	797	323	52	14%	22%	36%	18%	10%	57%	48%	46%	53%	47%
Not in NSLP	206,824	363	52	3%	9%	28%	30%	30%	73%	65%	59%	67%	62%
In NSLP	273,176	320	45	11%	25%	39%	18%	7%	56%	46%	44%	52%	46%
NSLP status unknown	1,030	320	52	16%	23%	35%	15%	11%	56%	47%	45%	51%	46%
Special Ed Services	41,960	305	49	25%	31%	26%	11%	7%	49%	40%	39%	45%	41%
No Special Ed Services	437,610	342	51	6%	17%	35%	24%	18%	65%	56%	52%	60%	54%
Special Ed unknown	1,460	321	52	15%	23%	34%	17%	10%	56%	47%	45%	51%	47%

Table 5.A.4: Demographic Summary for English-language Arts Grade 5

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	482,859	338	54	11%	16%	32%	24%	16%	61%	55%	66%	62%	54%
Male	246,001	333	54	14%	18%	31%	23%	15%	60%	53%	64%	59%	52%
Female	236,777	343	53	9%	15%	32%	26%	18%	62%	56%	68%	65%	56%
Gender unknown	81	312	47	23%	23%	30%	17%	6%	53%	45%	55%	52%	44%
American Indian	3,781	331	50	12%	18%	36%	22%	12%	60%	53%	64%	58%	51%
Asian American	38,968	367	56	5%	8%	24%	29%	34%	71%	64%	74%	73%	65%
Pacific Islander	3,047	334	49	10%	18%	35%	26%	12%	60%	53%	64%	62%	52%
Filipino	11,999	359	47	3%	8%	30%	35%	24%	71%	61%	73%	71%	62%
Hispanic	232,087	319	46	16%	22%	37%	19%	6%	52%	48%	59%	57%	47%
African American	39,295	321	48	16%	21%	35%	20%	8%	55%	48%	60%	57%	48%
White	150,327	362	53	5%	9%	26%	31%	29%	72%	63%	75%	68%	63%
Ethnicity unknown	3,355	342	57	13%	14%	27%	26%	21%	64%	56%	67%	62%	56%
English Only	268,056	350	54	8%	12%	29%	28%	22%	67%	59%	70%	65%	58%
Initially Fluent English Prof.	38,503	356	52	5%	10%	31%	31%	24%	68%	60%	73%	69%	61%
English Learner	132,654	302	39	23%	29%	36%	10%	2%	43%	42%	51%	51%	41%
Re-designated Fluent Eng.	42,834	359	41	1%	5%	35%	40%	19%	69%	62%	74%	72%	63%
English Prof. unknown	812	323	56	21%	19%	30%	20%	11%	54%	49%	59%	56%	49%
Not in NSLP	213,482	362	53	5%	9%	26%	31%	29%	72%	63%	75%	69%	63%
In NSLP	268,301	318	46	17%	22%	36%	19%	6%	52%	48%	58%	56%	47%
NSLP status unknown	1,076	317	54	22%	21%	30%	18%	9%	52%	48%	57%	54%	46%
Special Ed Services	43,124	297	49	36%	26%	23%	10%	5%	43%	41%	48%	46%	39%
No Special Ed Services	438,279	342	53	9%	15%	33%	26%	18%	62%	56%	67%	64%	56%
Special Ed unknown	1,456	320	55	21%	19%	30%	19%	10%	54%	48%	58%	55%	47%

Table 5.A.5: Demographic Summary for English-language Arts Grade 6

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	480,290	333	51	9%	19%	36%	24%	12%	62%	51%	55%	67%	49%
Male	244,704	328	52	11%	21%	35%	22%	11%	61%	49%	53%	64%	47%
Female	235,510	338	50	7%	16%	38%	26%	13%	64%	53%	57%	70%	51%
Gender unknown	76	310	51	20%	28%	34%	13%	5%	49%	44%	47%	57%	41%
American Indian	4,083	328	47	9%	20%	40%	23%	8%	62%	50%	53%	64%	47%
Asian American	39,358	361	55	4%	10%	29%	31%	26%	72%	60%	64%	77%	60%
Pacific Islander	3,074	330	45	7%	19%	42%	23%	8%	62%	50%	54%	67%	47%
Filipino	12,073	351	45	3%	10%	36%	36%	16%	71%	57%	61%	75%	56%
Hispanic	223,438	314	43	13%	26%	41%	16%	4%	55%	44%	48%	61%	41%
African American	38,944	316	45	14%	25%	39%	18%	5%	56%	45%	49%	60%	43%
White	155,856	356	51	4%	10%	31%	34%	22%	71%	59%	63%	74%	59%
Ethnicity unknown	3,464	338	54	9%	17%	33%	27%	15%	65%	53%	57%	67%	52%
English Only	272,502	344	52	6%	14%	34%	29%	16%	67%	55%	59%	70%	54%
Initially Fluent English Prof.	38,517	350	50	4%	11%	36%	31%	18%	69%	57%	61%	74%	56%
English Learner	113,524	294	34	21%	37%	36%	5%	1%	46%	37%	40%	53%	33%
Re-designated Fluent Eng.	54,945	345	39	1%	9%	47%	33%	10%	68%	55%	60%	74%	53%
English Prof. unknown	802	315	49	16%	25%	36%	17%	6%	55%	45%	48%	58%	43%
Not in NSLP	226,647	354	51	4%	11%	31%	33%	21%	71%	59%	63%	74%	58%
In NSLP	252,683	313	43	13%	26%	40%	16%	4%	55%	44%	48%	60%	41%
NSLP status unknown	960	313	49	19%	23%	35%	18%	5%	55%	44%	47%	58%	43%
Special Ed Services	42,574	290	43	33%	34%	23%	7%	3%	44%	36%	39%	47%	34%
No Special Ed Services	436,444	337	50	7%	17%	37%	26%	13%	64%	53%	56%	69%	50%
Special Ed unknown	1,272	312	48	18%	24%	36%	15%	6%	54%	44%	47%	57%	42%

Table 5.A.6: Demographic Summary for English-language Arts Grade 7

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	484,682	332	55	11%	19%	33%	26%	12%	61%	60%	53%	59%	53%
Male	246,138	325	54	14%	21%	33%	23%	9%	59%	58%	51%	57%	50%
Female	238,461	340	54	8%	16%	34%	29%	14%	63%	62%	56%	62%	56%
Gender unknown	83	296	53	28%	30%	28%	10%	5%	49%	47%	45%	47%	39%
American Indian	4,054	326	52	12%	21%	34%	26%	8%	59%	58%	53%	56%	51%
Asian American	39,643	361	56	5%	10%	26%	33%	26%	68%	69%	62%	72%	64%
Pacific Islander	3,080	328	49	9%	21%	38%	26%	7%	58%	58%	52%	60%	52%
Filipino	12,467	352	47	3%	10%	35%	37%	15%	66%	66%	60%	70%	60%
Hispanic	220,307	312	47	16%	25%	38%	18%	4%	55%	53%	46%	52%	46%
African American	39,865	312	49	17%	26%	35%	18%	4%	53%	53%	48%	52%	46%
White	161,499	356	52	4%	11%	29%	36%	20%	69%	68%	63%	67%	62%
Ethnicity unknown	3,767	331	57	13%	19%	31%	25%	12%	61%	60%	54%	58%	53%
English Only	279,982	344	54	8%	15%	31%	31%	15%	65%	64%	58%	63%	57%
Initially Fluent English Prof.	39,008	351	52	4%	12%	34%	33%	17%	68%	66%	59%	66%	60%
English Learner	106,126	289	37	26%	36%	33%	5%	0%	44%	44%	37%	44%	39%
Re-designated Fluent Eng.	58,578	346	41	2%	10%	43%	35%	9%	67%	65%	57%	66%	58%
English Prof. unknown	988	307	52	22%	24%	32%	16%	5%	53%	52%	46%	50%	45%
Not in NSLP	247,617	352	54	6%	12%	30%	33%	19%	68%	67%	61%	66%	60%
In NSLP	235,941	312	47	16%	26%	37%	18%	4%	54%	53%	46%	52%	46%
NSLP status unknown	1,124	305	54	25%	25%	29%	16%	5%	51%	51%	45%	49%	44%
Special Ed Services	40,762	283	44	38%	33%	21%	7%	2%	43%	42%	37%	40%	37%
No Special Ed Services	442,457	337	53	8%	17%	35%	28%	12%	63%	62%	55%	61%	55%
Special Ed unknown	1,463	307	53	23%	26%	29%	17%	5%	52%	52%	46%	50%	45%

Table 5.A.7: Demographic Summary for English-language Arts Grade 8

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	487,417	328	52	12%	19%	36%	22%	11%	60%	55%	55%	53%	60%
Male	248,435	321	52	15%	21%	34%	19%	10%	59%	54%	53%	50%	56%
Female	238,898	335	50	8%	17%	37%	25%	13%	61%	57%	58%	56%	64%
Gender unknown	84	297	44	31%	24%	32%	12%	1%	49%	44%	44%	43%	49%
American Indian	4,296	322	48	12%	22%	39%	21%	7%	59%	54%	54%	50%	57%
Asian American	40,030	355	55	5%	11%	30%	28%	25%	67%	63%	65%	64%	68%
Pacific Islander	3,199	322	46	11%	21%	42%	19%	7%	59%	53%	54%	51%	58%
Filipino	12,654	344	45	4%	12%	39%	31%	14%	65%	60%	62%	60%	65%
Hispanic	213,910	309	44	17%	26%	39%	14%	4%	55%	49%	48%	47%	53%
African American	40,580	309	46	19%	25%	37%	15%	4%	53%	48%	48%	47%	53%
White	168,529	349	50	6%	11%	33%	31%	20%	66%	63%	64%	59%	68%
Ethnicity unknown	4,219	326	54	15%	18%	33%	23%	11%	60%	55%	56%	51%	58%
English Only	288,502	338	52	9%	15%	35%	26%	15%	63%	59%	60%	55%	63%
Initially Fluent English Prof.	39,725	344	50	6%	13%	37%	27%	17%	66%	60%	61%	58%	66%
English Learner	95,042	287	35	28%	38%	30%	4%	0%	47%	41%	39%	40%	43%
Re-designated Fluent Eng.	63,159	337	41	4%	14%	48%	26%	9%	64%	58%	58%	57%	64%
English Prof. unknown	989	307	49	23%	25%	32%	16%	4%	54%	48%	48%	46%	51%
Not in NSLP	265,248	345	52	7%	13%	34%	28%	18%	65%	61%	62%	58%	66%
In NSLP	221,043	309	45	17%	26%	38%	14%	4%	54%	49%	47%	47%	52%
NSLP status unknown	1,126	305	48	23%	25%	33%	14%	4%	53%	48%	47%	45%	50%
Special Ed Services	44,398	280	42	41%	32%	20%	5%	2%	44%	39%	38%	37%	40%
No Special Ed Services	441,571	333	50	9%	18%	37%	24%	12%	62%	57%	57%	54%	62%
Special Ed unknown	1,448	305	48	23%	27%	33%	13%	4%	53%	48%	47%	45%	50%

Table 5.A.8: Demographic Summary for English-language Arts Grade 9

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	485,694	331	56	13%	19%	31%	25%	12%	61%	55%	50%	61%	53%
Male	249,060	324	55	17%	20%	30%	23%	10%	59%	53%	48%	58%	50%
Female	236,524	338	55	10%	17%	31%	27%	14%	63%	57%	53%	64%	56%
Gender unknown	110	292	53	35%	32%	17%	12%	5%	46%	42%	39%	45%	38%
American Indian	4,499	326	52	13%	21%	32%	25%	9%	61%	53%	49%	58%	51%
Asian American	41,921	357	57	7%	11%	25%	32%	25%	70%	65%	59%	69%	62%
Pacific Islander	3,185	322	49	13%	21%	35%	23%	7%	59%	52%	47%	59%	50%
Filipino	13,376	348	48	5%	11%	34%	36%	15%	69%	62%	56%	67%	60%
Hispanic	208,877	310	47	19%	26%	34%	17%	4%	52%	48%	43%	55%	45%
African American	41,141	311	49	20%	24%	33%	18%	5%	54%	48%	44%	55%	45%
White	167,289	354	55	7%	11%	27%	34%	22%	72%	63%	59%	67%	61%
Ethnicity unknown	5,406	322	58	19%	21%	26%	23%	11%	59%	52%	48%	56%	50%
English Only	294,722	341	56	10%	15%	30%	29%	16%	66%	58%	54%	63%	57%
Initially Fluent English Prof.	41,788	346	53	7%	13%	32%	31%	17%	67%	61%	55%	66%	59%
English Learner	89,893	286	35	31%	37%	27%	5%	0%	40%	39%	35%	48%	36%
Re-designated Fluent Eng.	58,179	337	45	6%	14%	41%	30%	9%	64%	58%	52%	65%	56%
English Prof. unknown	1,112	305	52	25%	25%	27%	16%	6%	51%	47%	43%	51%	43%
Not in NSLP	293,669	345	56	9%	14%	29%	30%	18%	68%	60%	55%	64%	58%
In NSLP	190,607	308	47	20%	26%	33%	16%	4%	52%	47%	43%	55%	45%
NSLP status unknown	1,418	305	52	28%	24%	27%	17%	5%	51%	46%	43%	50%	43%
Special Ed Services	42,726	281	40	42%	33%	18%	5%	1%	41%	38%	34%	43%	34%
No Special Ed Services	441,436	336	55	11%	17%	32%	27%	13%	63%	57%	52%	62%	55%
Special Ed unknown	1,532	304	52	28%	25%	25%	17%	5%	50%	46%	42%	51%	43%

Table 5.A.9: Demographic Summary for English-language Arts Grade 10

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	446,091	328	56	13%	21%	30%	21%	14%	65%	58%	49%	61%	60%
Male	227,357	320	56	18%	23%	28%	19%	12%	62%	56%	46%	57%	57%
Female	218,633	336	54	9%	19%	32%	23%	17%	68%	61%	52%	65%	63%
Gender unknown	101	279	41	39%	37%	17%	7%	1%	47%	38%	33%	41%	40%
American Indian	4,008	321	53	16%	23%	31%	20%	10%	63%	55%	48%	57%	57%
Asian American	42,007	354	57	6%	13%	27%	26%	27%	72%	68%	57%	72%	69%
Pacific Islander	2,993	318	51	15%	25%	33%	19%	9%	62%	54%	44%	59%	57%
Filipino	13,175	345	48	5%	13%	35%	29%	17%	72%	65%	53%	69%	68%
Hispanic	182,808	307	47	19%	29%	34%	14%	5%	57%	49%	41%	54%	53%
African American	36,020	308	49	20%	27%	32%	15%	6%	58%	49%	42%	54%	53%
White	160,033	349	56	8%	13%	26%	29%	24%	73%	67%	57%	67%	66%
Ethnicity unknown	5,047	317	60	22%	23%	25%	17%	13%	61%	54%	46%	55%	55%
English Only	275,069	337	57	11%	17%	29%	25%	18%	69%	62%	53%	63%	63%
Initially Fluent English Prof.	40,040	342	55	8%	15%	33%	25%	19%	69%	64%	53%	66%	66%
English Learner	74,953	283	34	29%	42%	25%	3%	1%	47%	39%	33%	45%	43%
Re-designated Fluent Eng.	55,121	334	45	6%	16%	44%	24%	10%	66%	60%	49%	65%	65%
English Prof. unknown	908	298	50	28%	30%	25%	12%	5%	54%	46%	40%	49%	48%
Not in NSLP	285,832	340	57	10%	16%	29%	25%	20%	70%	63%	53%	65%	64%
In NSLP	159,035	306	47	19%	29%	33%	14%	5%	56%	49%	41%	54%	53%
NSLP status unknown	1,224	301	53	28%	29%	24%	13%	6%	55%	47%	41%	50%	49%
Special Ed Services	38,614	276	39	43%	35%	16%	4%	2%	44%	36%	32%	39%	39%
No Special Ed Services	406,230	333	55	11%	19%	32%	23%	16%	67%	60%	50%	63%	62%
Special Ed unknown	1,247	300	52	27%	31%	24%	13%	6%	54%	47%	40%	49%	48%

Table 5.A.10: Demographic Summary for English-language Arts Grade 11

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Word Analysis and Vocabulary	Reading Comprehension	Literary Response and Analysis	Written and Oral Language Conventions	Writing Strategies
All valid scores	384,229	320	60	19%	19%	30%	22%	10%	63%	60%	50%	61%	55%
Male	194,883	312	62	24%	19%	28%	20%	9%	61%	58%	48%	57%	52%
Female	189,274	327	58	14%	18%	33%	24%	11%	65%	62%	52%	64%	58%
Gender unknown	72	277	47	42%	26%	24%	7%	1%	43%	48%	40%	42%	39%
American Indian	3,263	313	56	20%	20%	33%	21%	6%	61%	58%	48%	57%	52%
Asian American	37,841	343	61	10%	14%	29%	28%	19%	70%	66%	58%	68%	63%
Pacific Islander	2,610	309	55	22%	23%	31%	18%	6%	59%	56%	46%	58%	52%
Filipino	12,207	335	51	9%	14%	36%	30%	10%	70%	64%	55%	67%	62%
Hispanic	149,304	299	52	25%	25%	32%	14%	3%	55%	54%	43%	54%	49%
African American	29,779	297	54	29%	23%	30%	15%	3%	55%	53%	43%	54%	48%
White	145,035	339	61	13%	13%	28%	30%	16%	69%	66%	56%	66%	61%
Ethnicity unknown	4,190	309	64	28%	20%	24%	19%	9%	58%	56%	47%	55%	51%
English Only	240,780	328	61	17%	16%	29%	26%	13%	66%	62%	53%	63%	58%
Initially Fluent English Prof.	36,489	333	58	12%	15%	33%	27%	13%	68%	64%	54%	66%	60%
English Learner	57,250	272	39	41%	34%	22%	3%	0%	43%	43%	35%	44%	41%
Re-designated Fluent Eng.	48,958	326	48	10%	17%	43%	24%	6%	66%	62%	51%	64%	59%
English Prof. unknown	752	287	58	40%	22%	22%	12%	4%	50%	49%	41%	48%	44%
Not in NSLP	258,139	330	61	15%	16%	29%	26%	13%	66%	63%	53%	64%	59%
In NSLP	125,045	299	52	26%	25%	32%	14%	3%	55%	53%	43%	54%	49%
NSLP status unknown	1,045	289	58	39%	21%	23%	13%	4%	50%	49%	41%	49%	45%
Special Ed Services	31,279	263	44	56%	26%	14%	4%	1%	41%	41%	33%	39%	36%
No Special Ed Services	351,931	325	59	16%	18%	32%	24%	11%	65%	61%	52%	62%	57%
Special Ed unknown	1,019	290	57	36%	24%	24%	11%	5%	51%	50%	41%	49%	46%

Table 5.A.11: Demographic Summary for History Social Science Grade 8

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	World History and Geography: Ancient Civilizations	Late Antiquity and the Middle Ages	Renaissance/ Reformation	U.S. Constitution and the Early Republic	Civil War and Its Aftermath
All valid scores	482,505	319	52	18%	24%	31%	19%	8%	45%	50%	46%	49%	47%
Male	246,069	319	55	20%	24%	28%	19%	10%	45%	50%	46%	48%	46%
Female	236,352	319	49	15%	25%	34%	19%	7%	44%	49%	46%	50%	47%
Gender unknown	84	291	42	36%	33%	20%	7%	4%	39%	39%	37%	38%	35%
American Indian	4,224	313	47	19%	26%	34%	16%	5%	43%	47%	43%	46%	44%
Asian American	39,750	352	59	8%	13%	28%	29%	22%	53%	63%	56%	60%	57%
Pacific Islander	3,177	315	46	16%	26%	35%	18%	5%	43%	49%	44%	47%	45%
Filipino	12,560	338	47	7%	16%	37%	29%	11%	50%	58%	52%	55%	52%
Hispanic	211,356	301	42	24%	31%	31%	11%	3%	39%	43%	40%	42%	41%
African American	40,261	299	43	27%	31%	29%	11%	3%	40%	42%	39%	42%	39%
White	167,041	338	54	10%	17%	32%	27%	14%	50%	56%	52%	55%	53%
Ethnicity unknown	4,136	317	54	21%	24%	28%	18%	9%	44%	49%	45%	47%	45%
English Only	285,823	327	53	14%	21%	32%	22%	11%	47%	52%	48%	52%	49%
Initially Fluent English Prof.	39,290	336	55	10%	18%	33%	25%	13%	49%	56%	51%	54%	52%
English Learner	94,049	284	33	36%	38%	22%	4%	1%	34%	36%	35%	36%	35%
Re-designated Fluent Eng.	62,363	326	45	9%	21%	40%	22%	7%	46%	53%	49%	51%	49%
English Prof. unknown	980	298	45	30%	31%	25%	11%	3%	39%	42%	39%	41%	39%
Not in NSLP	262,815	335	54	11%	18%	32%	25%	13%	49%	55%	51%	54%	52%
In NSLP	218,574	301	42	25%	31%	30%	11%	3%	39%	43%	40%	42%	41%
NSLP status unknown	1,116	296	44	32%	31%	23%	10%	3%	39%	41%	39%	40%	38%
Special Ed Services	45,268	283	40	44%	33%	17%	5%	2%	35%	36%	34%	35%	34%
No Special Ed Services	435,820	323	52	15%	23%	32%	20%	9%	46%	51%	47%	50%	48%
Special Ed unknown	1,417	298	45	30%	32%	25%	10%	4%	39%	41%	39%	40%	39%

Table 5.A.12: Demographic Summary for History Social Science Grade 10

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Development of Modern Political Thought	Industrial Expansion and Imperialism	Causes and Effects of the First World War	Causes and Effects of the Second World War	International Developments in the Post-World War II Era
All valid scores	439,011	318	60	25%	19%	28%	17%	10%	50%	50%	45%	50%	47%
Male	223,749	321	65	27%	18%	25%	18%	13%	51%	50%	47%	50%	48%
Female	215,170	316	55	24%	21%	30%	17%	8%	50%	49%	43%	50%	46%
Gender unknown	92	276	42	54%	24%	15%	5%	1%	34%	34%	33%	36%	35%
American Indian	3,930	309	56	30%	21%	27%	15%	7%	47%	47%	42%	47%	44%
Asian American	41,531	350	65	12%	13%	28%	25%	22%	59%	61%	55%	60%	57%
Pacific Islander	2,916	308	54	28%	23%	28%	15%	6%	47%	46%	41%	48%	44%
Filipino	13,081	334	54	13%	16%	35%	24%	12%	54%	55%	49%	57%	53%
Hispanic	179,765	298	49	34%	25%	27%	11%	4%	44%	42%	38%	44%	41%
African American	35,015	293	49	39%	24%	24%	10%	3%	42%	41%	37%	42%	39%
White	157,858	338	62	16%	15%	29%	24%	16%	56%	57%	52%	56%	53%
Ethnicity unknown	4,915	309	62	34%	19%	22%	14%	10%	47%	47%	42%	46%	44%
English Only	270,698	325	62	22%	17%	28%	20%	13%	52%	52%	47%	52%	49%
Initially Fluent English Prof.	39,580	333	63	18%	17%	30%	21%	15%	55%	55%	50%	55%	52%
English Learner	73,324	279	39	48%	28%	19%	4%	1%	37%	36%	33%	37%	35%
Re-designated Fluent Eng.	54,563	324	54	17%	20%	36%	19%	9%	52%	51%	47%	53%	49%
English Prof. unknown	846	288	50	46%	22%	20%	9%	3%	39%	39%	36%	40%	38%
Not in NSLP	281,614	330	62	20%	17%	28%	21%	14%	54%	54%	49%	54%	50%
In NSLP	156,226	298	50	35%	24%	26%	11%	4%	44%	42%	38%	44%	41%
NSLP status unknown	1,171	291	50	43%	23%	21%	10%	3%	41%	40%	36%	41%	39%
Special Ed Services	38,422	275	45	57%	23%	13%	5%	2%	35%	35%	33%	35%	33%
No Special Ed Services	399,399	322	60	22%	19%	29%	19%	11%	51%	51%	46%	52%	48%
Special Ed unknown	1,190	290	50	43%	23%	21%	9%	3%	41%	39%	36%	41%	39%

Table 5.A.13: Demographic Summary for History Social Science Grade 11

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Foundations of American Political and Social Thought	Industrialization and the U.S. Role as a World Power	United States Between the World Wars	World War II and Foreign Affairs	Post-World War II Domestic Issues
All valid scores	377,819	326	59	15%	20%	32%	21%	11%	50%	51%	49%	46%	49%
Male	191,646	326	62	18%	20%	28%	21%	13%	50%	51%	48%	48%	49%
Female	186,112	326	55	13%	21%	35%	21%	10%	51%	51%	50%	45%	49%
Gender unknown	61	287	44	31%	33%	28%	7%	2%	38%	40%	40%	33%	33%
American Indian	3,202	318	55	17%	22%	33%	20%	8%	47%	49%	46%	45%	47%
Asian American	37,392	351	64	9%	13%	29%	27%	22%	58%	59%	55%	55%	58%
Pacific Islander	2,540	314	51	18%	24%	33%	19%	6%	47%	47%	45%	43%	45%
Filipino	12,098	338	53	8%	15%	37%	28%	12%	54%	54%	53%	50%	54%
Hispanic	146,724	308	48	20%	27%	34%	15%	4%	45%	45%	44%	40%	42%
African American	28,968	305	50	24%	26%	31%	15%	4%	43%	44%	44%	38%	43%
White	142,850	342	61	11%	15%	30%	27%	17%	55%	57%	52%	52%	55%
Ethnicity unknown	4,045	316	60	23%	22%	27%	18%	10%	47%	47%	45%	43%	46%
English Only	236,586	332	60	14%	18%	31%	24%	14%	52%	53%	50%	48%	52%
Initially Fluent English Prof.	35,920	339	60	10%	16%	33%	26%	16%	55%	55%	52%	51%	54%
English Learner	56,142	287	36	29%	36%	28%	5%	1%	38%	38%	38%	34%	34%
Re-designated Fluent Eng.	48,454	332	51	9%	17%	40%	24%	10%	52%	53%	51%	48%	51%
English Prof. unknown	717	298	49	30%	27%	27%	13%	3%	42%	42%	41%	37%	39%
Not in NSLP	253,975	335	61	13%	17%	31%	25%	15%	53%	54%	51%	49%	52%
In NSLP	122,839	308	49	20%	27%	34%	14%	5%	44%	45%	44%	40%	42%
NSLP status unknown	1,005	298	50	29%	27%	29%	12%	4%	42%	42%	40%	37%	40%
Special Ed Services	31,084	282	43	40%	32%	20%	6%	2%	36%	36%	35%	33%	34%
No Special Ed Services	345,753	330	58	13%	19%	33%	23%	12%	51%	52%	50%	48%	50%
Special Ed unknown	982	300	49	27%	29%	27%	13%	4%	42%	42%	41%	37%	40%

Table 5.A.14: Demographic Summary for Mathematics Grade 2

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Place Value, Addition, and Subtraction	Multiplication, Division, and Fractions	Algebra and Functions	Measurement and Geometry	
All valid scores	475,179	358	79	5%	20%	25%	28%	23%	66%	69%	74%	78%	71%
Male	242,937	360	81	5%	19%	24%	28%	24%	66%	70%	74%	78%	70%
Female	232,150	356	77	4%	20%	26%	28%	22%	65%	69%	74%	77%	71%
Gender unknown	92	317	78	14%	27%	24%	24%	11%	56%	58%	64%	67%	63%
American Indian	3,717	349	74	5%	21%	28%	27%	18%	63%	67%	71%	77%	70%
Asian American	37,040	409	83	2%	8%	15%	29%	47%	79%	79%	86%	86%	80%
Pacific Islander	2,862	356	72	4%	18%	27%	31%	20%	65%	69%	75%	78%	70%
Filipino	11,714	386	74	1%	10%	21%	35%	33%	74%	76%	83%	84%	76%
Hispanic	240,301	336	69	6%	26%	29%	26%	13%	60%	65%	69%	73%	65%
African American	36,086	330	72	9%	28%	27%	24%	13%	58%	63%	68%	71%	65%
White	139,006	387	78	2%	11%	20%	32%	35%	73%	76%	81%	84%	79%
Ethnicity unknown	4,453	361	82	5%	18%	23%	29%	25%	66%	69%	75%	79%	72%
English Only	260,404	370	80	4%	16%	23%	30%	28%	68%	72%	77%	80%	74%
Initially Fluent English Prof.	31,605	388	79	2%	11%	21%	32%	35%	74%	76%	82%	83%	77%
English Learner	175,277	334	71	7%	27%	28%	25%	13%	60%	64%	69%	73%	64%
Re-designated Fluent Eng.	6,839	394	74	1%	8%	19%	35%	37%	75%	78%	84%	85%	79%
English Prof. unknown	1,054	330	77	11%	26%	26%	23%	14%	58%	62%	67%	71%	64%
Not in NSLP	200,445	388	80	2%	11%	20%	32%	36%	73%	76%	81%	84%	78%
In NSLP	273,388	336	70	7%	26%	28%	26%	13%	60%	65%	69%	73%	65%
NSLP status unknown	1,346	327	79	12%	27%	25%	22%	13%	57%	61%	66%	70%	63%
Special Ed Services	37,853	311	82	20%	29%	21%	18%	11%	52%	56%	61%	66%	58%
No Special Ed Services	435,580	362	77	3%	19%	25%	29%	24%	67%	71%	75%	79%	72%
Special Ed unknown	1,746	326	75	12%	27%	27%	22%	12%	57%	61%	66%	71%	63%

Table 5.A.15: Demographic Summary for Mathematics Grade 3

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Place Value, Fractions and Decimals	Addition, Subtraction, Multiplication, and Division	Algebra and Functions	Measurement and Geometry	
All valid scores	483,304	353	77	4%	23%	25%	27%	21%	59%	64%	68%	65%	68%
Male	246,810	355	78	4%	22%	25%	27%	23%	60%	64%	69%	66%	68%
Female	236,415	351	75	3%	23%	26%	27%	20%	58%	64%	66%	65%	68%
Gender unknown	79	314	66	8%	38%	27%	20%	8%	46%	53%	57%	57%	52%
American Indian	3,951	343	71	4%	25%	28%	27%	16%	57%	60%	66%	64%	67%
Asian American	37,631	407	82	1%	8%	16%	28%	47%	74%	79%	81%	76%	78%
Pacific Islander	3,033	350	70	2%	23%	28%	29%	18%	59%	63%	67%	66%	67%
Filipino	11,935	383	72	1%	11%	21%	34%	33%	69%	74%	76%	72%	74%
Hispanic	240,126	332	67	5%	30%	29%	24%	12%	53%	58%	62%	60%	62%
African American	37,672	323	68	7%	33%	27%	22%	10%	51%	55%	58%	58%	59%
White	144,731	380	76	2%	13%	21%	32%	32%	67%	70%	76%	72%	77%
Ethnicity unknown	4,225	357	79	4%	21%	24%	27%	23%	61%	65%	69%	66%	68%
English Only	266,199	363	77	3%	19%	24%	29%	26%	62%	66%	71%	68%	72%
Initially Fluent English Prof.	38,985	381	78	1%	13%	22%	31%	32%	67%	72%	76%	71%	74%
English Learner	162,117	325	66	5%	33%	30%	22%	10%	51%	57%	59%	59%	59%
Re-designated Fluent Eng.	15,018	401	71	0%	6%	18%	35%	41%	72%	79%	81%	76%	78%
English Prof. unknown	985	324	76	9%	33%	25%	20%	14%	51%	55%	60%	57%	58%
Not in NSLP	205,391	382	78	2%	13%	21%	31%	34%	68%	72%	76%	72%	76%
In NSLP	276,595	332	68	5%	30%	29%	24%	12%	53%	58%	62%	60%	62%
NSLP status unknown	1,318	324	76	9%	34%	22%	22%	13%	51%	54%	60%	58%	58%
Special Ed Services	44,486	307	75	15%	39%	20%	16%	10%	46%	48%	53%	53%	54%
No Special Ed Services	437,229	358	75	2%	21%	26%	28%	23%	61%	65%	69%	66%	69%
Special Ed unknown	1,589	324	73	7%	34%	24%	22%	12%	51%	55%	60%	58%	59%

Table 5.A.16: Demographic Summary for Mathematics Grade 4

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Decimals, Fractions, and Negative Numbers	Operations and Factoring	Algebra and Functions	Measurement and Geometry	
All valid scores	487,766	343	64	3%	24%	28%	27%	18%	67%	62%	63%	56%	67%
Male	249,504	343	66	4%	25%	27%	26%	19%	68%	61%	63%	56%	65%
Female	238,195	344	63	3%	23%	29%	27%	18%	66%	63%	64%	56%	68%
Gender unknown	67	316	62	6%	40%	22%	18%	13%	59%	52%	54%	47%	54%
American Indian	3,941	332	59	4%	28%	30%	26%	12%	65%	57%	59%	52%	63%
Asian American	38,516	392	70	1%	8%	17%	30%	44%	79%	79%	79%	70%	77%
Pacific Islander	3,067	341	60	3%	23%	30%	28%	16%	67%	62%	63%	55%	66%
Filipino	11,882	370	60	1%	11%	24%	35%	29%	75%	73%	74%	65%	74%
Hispanic	239,323	325	56	4%	32%	32%	23%	10%	61%	55%	57%	50%	63%
African American	39,770	317	56	6%	37%	29%	20%	8%	59%	52%	54%	48%	59%
White	147,835	365	64	2%	14%	24%	33%	28%	75%	70%	71%	63%	72%
Ethnicity unknown	3,432	344	67	4%	25%	25%	27%	20%	68%	62%	63%	55%	66%
English Only	268,596	351	65	3%	20%	26%	29%	22%	70%	65%	66%	59%	69%
Initially Fluent English Prof.	37,713	368	67	1%	14%	25%	31%	29%	74%	71%	72%	64%	73%
English Learner	153,827	317	53	5%	36%	32%	19%	7%	58%	52%	55%	47%	60%
Re-designated Fluent Eng.	26,814	382	58	0%	6%	21%	38%	35%	78%	78%	77%	68%	78%
English Prof. unknown	816	320	62	6%	38%	24%	20%	11%	60%	53%	54%	48%	59%
Not in NSLP	209,006	368	66	1%	13%	23%	32%	29%	75%	71%	72%	64%	73%
In NSLP	277,704	324	57	5%	32%	31%	22%	10%	61%	55%	57%	50%	62%
NSLP status unknown	1,056	315	59	8%	37%	27%	19%	9%	58%	51%	53%	46%	58%
Special Ed Services	47,746	301	59	12%	46%	22%	13%	7%	52%	44%	47%	43%	51%
No Special Ed Services	438,544	348	63	2%	22%	28%	28%	19%	69%	64%	65%	57%	68%
Special Ed unknown	1,476	319	60	6%	37%	26%	22%	9%	60%	53%	55%	48%	59%

Table 5.A.17: Demographic Summary for Mathematics Grade 5

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Estimation, Percents, and Factoring	Operations with Fractions and Decimals	Algebra and Functions	Measurement and Geometry	
All valid scores	484,724	336	76	10%	25%	27%	26%	12%	54%	54%	59%	52%	69%
Male	247,285	335	78	11%	26%	26%	25%	12%	54%	53%	58%	52%	67%
Female	237,354	337	73	8%	25%	29%	27%	11%	53%	55%	59%	53%	71%
Gender unknown	85	290	62	25%	36%	26%	9%	4%	43%	40%	45%	41%	55%
American Indian	3,792	318	68	12%	31%	29%	21%	7%	50%	49%	55%	48%	64%
Asian American	39,068	393	85	3%	11%	19%	34%	33%	69%	70%	72%	66%	79%
Pacific Islander	3,052	329	70	10%	27%	28%	26%	8%	53%	52%	57%	50%	67%
Filipino	12,020	365	72	3%	14%	28%	36%	18%	62%	63%	67%	60%	76%
Hispanic	233,136	314	64	13%	32%	30%	20%	5%	48%	48%	52%	47%	66%
African American	39,590	307	64	17%	33%	27%	18%	4%	46%	45%	51%	45%	61%
White	150,696	361	77	5%	17%	26%	33%	19%	62%	61%	66%	59%	74%
Ethnicity unknown	3,370	335	78	12%	24%	26%	26%	12%	54%	54%	58%	52%	68%
English Only	268,913	345	77	8%	22%	27%	29%	14%	57%	56%	61%	55%	70%
Initially Fluent English Prof.	38,545	362	80	5%	18%	27%	31%	19%	61%	61%	65%	59%	75%
English Learner	133,613	300	58	17%	38%	28%	14%	3%	43%	45%	48%	43%	63%
Re-designated Fluent Eng.	42,834	368	69	2%	13%	30%	38%	18%	62%	64%	68%	61%	78%
English Prof. unknown	819	309	75	20%	31%	26%	16%	8%	47%	47%	50%	45%	62%
Not in NSLP	213,906	364	79	5%	16%	26%	33%	20%	62%	62%	66%	59%	74%
In NSLP	269,721	314	65	13%	32%	29%	20%	5%	48%	48%	52%	47%	65%
NSLP status unknown	1,097	303	71	20%	34%	25%	15%	6%	45%	45%	49%	44%	60%
Special Ed Services	44,953	283	66	32%	36%	17%	10%	4%	39%	39%	43%	38%	52%
No Special Ed Services	438,312	341	74	7%	24%	28%	27%	13%	55%	56%	60%	54%	71%
Special Ed unknown	1,459	309	74	19%	32%	25%	17%	7%	46%	47%	50%	46%	62%

Table 5.A.18: Demographic Summary for Mathematics Grade 6

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Proportions, Percentages, and Negative	Operations and Problem Solving with Fractions	Algebra and Functions	Measurement and Geometry	
All valid scores	480,879	335	63	6%	28%	31%	23%	12%	51%	58%	61%	45%	46%
Male	245,149	336	65	6%	27%	30%	23%	13%	52%	59%	61%	45%	46%
Female	235,651	333	61	5%	28%	33%	23%	11%	49%	57%	61%	46%	47%
Gender unknown	79	307	60	14%	48%	14%	18%	6%	42%	46%	51%	38%	37%
American Indian	4,074	324	56	7%	30%	34%	21%	7%	48%	54%	58%	42%	43%
Asian American	39,402	384	72	2%	11%	23%	32%	33%	67%	73%	75%	59%	60%
Pacific Islander	3,065	328	56	6%	29%	34%	23%	8%	48%	56%	59%	44%	44%
Filipino	12,070	354	59	2%	15%	33%	33%	16%	58%	65%	68%	52%	52%
Hispanic	223,813	313	50	8%	37%	34%	17%	4%	43%	50%	55%	40%	39%
African American	39,053	307	49	11%	40%	31%	14%	3%	40%	48%	52%	37%	38%
White	155,931	359	64	3%	16%	29%	32%	19%	60%	67%	68%	51%	54%
Ethnicity unknown	3,471	337	66	7%	26%	29%	25%	13%	52%	58%	61%	45%	47%
English Only	272,673	344	64	5%	23%	31%	27%	15%	54%	61%	63%	47%	49%
Initially Fluent English Prof.	38,540	356	67	3%	18%	31%	28%	20%	58%	65%	68%	51%	53%
English Learner	113,918	298	43	12%	47%	31%	9%	2%	37%	43%	49%	36%	34%
Re-designated Fluent Eng.	54,942	352	57	1%	16%	38%	32%	14%	56%	63%	68%	51%	52%
English Prof. unknown	806	313	55	11%	38%	28%	17%	6%	45%	49%	53%	39%	39%
Not in NSLP	226,676	358	66	3%	17%	29%	31%	20%	59%	67%	68%	51%	54%
In NSLP	253,227	314	51	8%	37%	34%	17%	5%	43%	50%	54%	40%	39%
NSLP status unknown	976	311	56	13%	37%	30%	14%	6%	44%	48%	52%	39%	38%
Special Ed Services	43,351	288	49	21%	50%	18%	8%	3%	35%	40%	42%	34%	32%
No Special Ed Services	436,246	339	62	4%	25%	33%	25%	13%	52%	59%	63%	47%	48%
Special Ed unknown	1,282	311	53	11%	38%	31%	16%	5%	43%	48%	52%	39%	38%

Table 5.A.19: Demographic Summary for Mathematics Grade 7

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters					
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Rational Numbers	Exponents, Powers, and Roots	Quantitative Relationships and Evaluating Expressions	Multi-step Problems, Graphing, and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	488,074	328	64	10%	27%	30%	23%	10%	51%	47%	56%	55%	50%	64%
Male	248,569	328	66	12%	27%	28%	22%	11%	51%	46%	55%	55%	50%	63%
Female	239,425	329	61	9%	27%	32%	23%	9%	51%	48%	57%	55%	50%	66%
Gender unknown	80	287	47	26%	36%	26%	11%	0%	38%	30%	41%	43%	39%	51%
American Indian	4,092	317	56	12%	31%	30%	22%	5%	47%	42%	52%	52%	48%	61%
Asian American	39,784	381	75	3%	11%	22%	32%	32%	68%	67%	70%	70%	62%	77%
Pacific Islander	3,085	322	57	10%	29%	32%	22%	7%	48%	45%	56%	53%	48%	63%
Filipino	12,503	350	58	4%	16%	33%	34%	13%	58%	55%	64%	62%	55%	73%
Hispanic	222,204	307	51	14%	36%	31%	16%	3%	44%	39%	50%	49%	44%	58%
African American	40,324	298	50	19%	38%	28%	12%	2%	41%	37%	48%	45%	42%	53%
White	162,295	351	63	5%	17%	30%	32%	16%	58%	53%	62%	63%	58%	71%
Ethnicity unknown	3,787	323	63	13%	28%	29%	22%	9%	50%	44%	54%	53%	50%	60%
English Only	281,698	336	64	9%	23%	30%	26%	12%	53%	49%	58%	58%	53%	66%
Initially Fluent English Prof.	39,087	351	69	5%	19%	31%	28%	17%	58%	54%	62%	62%	55%	71%
English Learner	107,674	291	45	21%	44%	26%	8%	2%	38%	35%	45%	42%	38%	52%
Re-designated Fluent Eng.	58,613	346	57	3%	18%	37%	30%	11%	56%	53%	62%	62%	54%	71%
English Prof. unknown	1,002	303	56	17%	37%	29%	12%	5%	43%	37%	47%	47%	44%	54%
Not in NSLP	248,650	349	66	6%	19%	29%	30%	16%	57%	53%	62%	61%	56%	70%
In NSLP	238,284	307	53	15%	35%	31%	16%	4%	44%	40%	50%	48%	44%	58%
NSLP status unknown	1,140	301	57	20%	37%	26%	13%	5%	42%	36%	46%	46%	43%	52%
Special Ed Services	44,063	277	47	35%	42%	15%	6%	2%	34%	31%	39%	37%	36%	44%
No Special Ed Services	442,537	334	63	8%	26%	31%	25%	11%	52%	48%	58%	57%	52%	66%
Special Ed unknown	1,474	304	56	18%	36%	28%	14%	4%	43%	38%	48%	47%	44%	53%

Table 5.A.20: Demographic Summary for General Mathematics

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters					
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Rational Numbers	Exponents, Powers, and Roots	Quantitative Relationships and Evaluating Expressions	Multi-step Problems, Graphing, and Functions	Measurement and Geometry	Statistics, Data Analysis, and Probability
All valid scores	406,992	306	50	18%	30%	32%	17%	3%	46%	41%	56%	48%	40%	49%
Grade 8	269,234	311	52	16%	28%	33%	20%	4%	49%	43%	58%	49%	42%	50%
Grade 9	137,758	295	46	23%	33%	31%	12%	1%	42%	37%	52%	44%	38%	45%
Male	218,311	304	52	20%	30%	30%	17%	3%	46%	41%	54%	48%	41%	48%
Female	188,578	307	48	16%	30%	35%	17%	2%	47%	41%	59%	48%	40%	50%
Gender unknown	103	293	50	31%	29%	27%	11%	2%	43%	37%	50%	43%	38%	44%
American Indian	4,533	304	49	18%	30%	33%	17%	2%	46%	41%	55%	47%	41%	49%
Asian American	19,199	333	56	9%	19%	33%	30%	9%	58%	52%	67%	57%	45%	54%
Pacific Islander	2,914	305	48	18%	29%	35%	16%	2%	46%	41%	57%	47%	39%	48%
Filipino	7,918	324	49	9%	23%	38%	26%	4%	53%	47%	65%	54%	44%	53%
Hispanic	201,991	294	45	22%	35%	31%	11%	1%	42%	37%	52%	44%	37%	45%
African American	37,689	288	45	28%	35%	27%	9%	1%	40%	35%	50%	41%	35%	43%
White	128,073	323	53	11%	22%	35%	27%	5%	52%	48%	62%	53%	46%	55%
Ethnicity unknown	4,675	300	52	23%	30%	29%	16%	2%	45%	39%	53%	46%	40%	47%
English Only	238,626	311	52	16%	27%	33%	20%	4%	48%	43%	58%	49%	43%	51%
Initially Fluent English Prof.	26,861	315	50	13%	27%	36%	20%	4%	49%	44%	60%	51%	42%	52%
English Learner	101,562	285	41	27%	39%	26%	7%	1%	40%	34%	48%	41%	34%	41%
Re-designated Fluent Eng.	38,800	320	47	8%	25%	41%	22%	3%	51%	45%	63%	53%	43%	53%
English Prof. unknown	1,143	294	51	25%	34%	25%	13%	2%	42%	38%	51%	44%	38%	46%
Not in NSLP	206,848	316	52	14%	25%	34%	22%	4%	50%	45%	60%	51%	44%	52%
In NSLP	198,777	295	46	22%	35%	30%	11%	1%	43%	37%	52%	44%	37%	45%
NSLP status unknown	1,367	293	48	26%	33%	27%	12%	2%	42%	37%	50%	43%	37%	45%
Special Ed Services	56,983	271	41	43%	37%	16%	5%	1%	34%	31%	41%	36%	32%	37%
No Special Ed Services	348,386	311	50	14%	29%	35%	19%	3%	48%	43%	59%	50%	42%	51%
Special Ed unknown	1,623	292	48	26%	35%	26%	11%	2%	42%	37%	50%	43%	37%	45%

Table 5.A.21: Demographic Summary for Algebra I

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters			
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Number Properties, Operations, and Linear Equations	Graphing and Systems of Linear Equations	Quadratics and Polynomials	Functions and Rational Expressions
All valid scores	603,559	305	54	13%	43%	26%	15%	3%	47%	35%	43%	34%
Grade 8	187,604	331	65	8%	30%	27%	27%	8%	55%	43%	51%	40%
Grade 9	219,353	301	47	13%	43%	29%	14%	1%	46%	34%	42%	33%
Grade 10	132,559	286	39	18%	52%	23%	6%	0%	41%	29%	38%	30%
Grade 11	64,043	279	36	22%	56%	18%	4%	0%	38%	27%	35%	29%
Male	305,270	304	55	15%	42%	25%	15%	3%	47%	34%	43%	34%
Female	298,190	306	53	12%	43%	27%	15%	3%	47%	35%	44%	34%
Gender unknown	99	280	39	24%	55%	13%	8%	0%	38%	27%	37%	30%
American Indian	5,101	300	47	13%	45%	28%	13%	1%	47%	33%	41%	32%
Asian American	44,321	349	72	5%	24%	27%	31%	13%	59%	48%	56%	46%
Pacific Islander	4,051	301	48	13%	45%	27%	13%	2%	46%	34%	43%	32%
Filipino	16,266	320	54	7%	34%	34%	22%	3%	52%	39%	49%	37%
Hispanic	278,308	289	43	17%	51%	23%	8%	1%	42%	30%	39%	31%
African American	52,259	284	41	21%	52%	20%	7%	0%	40%	29%	37%	29%
White	197,892	321	57	8%	33%	32%	23%	4%	54%	39%	48%	37%
Ethnicity unknown	5,361	300	54	17%	43%	24%	13%	3%	46%	33%	41%	33%
English Only	353,555	310	55	12%	39%	28%	18%	3%	49%	36%	45%	35%
Initially Fluent English Prof.	50,793	317	61	10%	38%	28%	19%	5%	51%	38%	46%	37%
English Learner	116,987	281	41	23%	55%	17%	5%	1%	38%	28%	36%	30%
Re-designated Fluent Eng.	81,165	311	53	10%	41%	30%	17%	3%	49%	36%	45%	35%
English Prof. unknown	1,059	288	46	20%	51%	20%	9%	1%	42%	30%	38%	31%
Not in NSLP	352,177	314	58	11%	38%	29%	19%	4%	51%	37%	46%	36%
In NSLP	249,995	292	46	17%	49%	23%	9%	1%	42%	31%	39%	31%
NSLP status unknown	1,387	289	47	20%	50%	20%	8%	1%	42%	31%	38%	31%
Special Ed Services	42,813	272	39	31%	53%	12%	4%	1%	35%	26%	33%	28%
No Special Ed Services	559,211	307	54	12%	42%	27%	16%	3%	48%	35%	44%	34%
Special Ed unknown	1,535	289	48	20%	50%	19%	9%	1%	42%	30%	38%	31%

Table 5.A.22: Demographic Summary for Geometry

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters			
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Logic and Geometric Proofs	Volume and Area Formulas	Angle Relationships, Constructions, and Lines	Trigonometry
All valid scores	298,372	314	58	8%	37%	31%	18%	6%	47%	36%	42%	46%
Grade 8	12,412	396	66	1%	6%	19%	39%	37%	71%	61%	66%	70%
Grade 9	89,524	344	60	3%	20%	34%	31%	12%	57%	45%	51%	55%
Grade 10	126,380	302	48	9%	42%	34%	13%	2%	43%	33%	39%	43%
Grade 11	70,056	283	39	15%	55%	24%	5%	0%	36%	28%	34%	36%
Male	142,353	317	60	8%	35%	30%	19%	7%	48%	38%	43%	46%
Female	155,991	312	56	8%	39%	31%	17%	5%	46%	35%	41%	46%
Gender unknown	28	305	52	14%	36%	29%	21%	0%	44%	39%	38%	42%
American Indian	2,095	308	50	8%	40%	33%	17%	3%	45%	34%	41%	44%
Asian American	36,099	353	72	4%	21%	28%	28%	19%	58%	48%	53%	58%
Pacific Islander	1,924	304	51	10%	42%	31%	14%	3%	43%	34%	39%	43%
Filipino	11,231	317	53	6%	35%	35%	19%	5%	47%	37%	43%	48%
Hispanic	103,786	291	44	12%	50%	28%	9%	1%	39%	30%	36%	39%
African American	21,391	283	42	17%	53%	23%	7%	1%	37%	28%	34%	36%
White	119,479	328	57	5%	28%	36%	24%	8%	52%	40%	46%	50%
Ethnicity unknown	2,367	310	57	11%	36%	30%	18%	5%	46%	37%	41%	44%
English Only	188,417	319	58	7%	33%	33%	20%	6%	49%	38%	43%	47%
Initially Fluent English Prof.	29,994	327	67	6%	33%	30%	20%	11%	50%	40%	46%	50%
English Learner	34,463	285	47	16%	55%	20%	7%	2%	37%	30%	34%	37%
Re-designated Fluent Eng.	45,159	309	56	8%	41%	31%	14%	5%	45%	35%	41%	45%
English Prof. unknown	339	301	53	12%	45%	28%	12%	4%	41%	34%	38%	42%
Not in NSLP	205,606	323	60	6%	32%	32%	21%	8%	50%	39%	45%	48%
In NSLP	92,297	294	48	12%	48%	27%	10%	2%	40%	31%	37%	40%
NSLP status unknown	469	305	54	10%	43%	27%	16%	4%	43%	36%	39%	44%
Special Ed Services	9,261	281	48	21%	52%	19%	7%	2%	36%	29%	33%	35%
No Special Ed Services	288,604	315	58	8%	37%	31%	18%	6%	47%	37%	42%	46%
Special Ed unknown	507	298	52	13%	45%	26%	13%	3%	42%	34%	37%	40%

Table 5.A.23: Demographic Summary for Algebra II

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters			
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Polynomials and Rational Expressions	Quadratics, Conics, and Complex Numbers	Exponents and Logarithms	Series, Combinatorics, and Probability and Statistics
All valid scores	180,865	312	60	16%	31%	30%	18%	6%	55%	44%	49%	45%
Grade 8	497	361	93	16%	13%	16%	30%	25%	68%	57%	64%	55%
Grade 9	13,226	367	71	4%	12%	26%	35%	22%	71%	59%	66%	59%
Grade 10	78,576	329	60	9%	24%	34%	25%	8%	61%	48%	55%	49%
Grade 11	88,566	289	46	23%	40%	27%	9%	1%	47%	38%	41%	38%
Male	83,930	317	64	16%	29%	29%	19%	7%	55%	46%	51%	47%
Female	96,924	309	57	16%	33%	30%	16%	4%	55%	43%	47%	43%
Gender unknown	11	271	34	36%	45%	18%	0%	0%	41%	34%	35%	32%
American Indian	1,083	304	52	17%	34%	32%	14%	3%	52%	41%	46%	43%
Asian American	30,012	347	70	7%	19%	29%	29%	15%	67%	53%	59%	53%
Pacific Islander	1,037	301	53	19%	34%	30%	14%	3%	52%	41%	45%	41%
Filipino	7,947	308	53	14%	34%	32%	17%	3%	54%	43%	48%	43%
Hispanic	49,367	289	47	24%	40%	26%	9%	1%	48%	38%	41%	37%
African American	10,424	279	47	32%	39%	21%	7%	1%	44%	36%	38%	35%
White	79,603	319	58	12%	29%	33%	21%	6%	56%	46%	52%	48%
Ethnicity unknown	1,392	308	57	18%	33%	28%	17%	4%	53%	43%	48%	43%
English Only	117,532	313	58	15%	31%	31%	18%	5%	55%	44%	50%	46%
Initially Fluent English Prof.	21,667	326	69	13%	28%	28%	21%	10%	60%	47%	53%	47%
English Learner	12,552	290	59	30%	35%	20%	11%	4%	50%	39%	41%	36%
Re-designated Fluent Eng.	28,944	308	59	17%	33%	29%	15%	5%	55%	43%	47%	42%
English Prof. unknown	170	298	57	21%	38%	21%	15%	5%	50%	40%	44%	42%
Not in NSLP	135,452	318	61	13%	29%	31%	20%	7%	57%	45%	51%	47%
In NSLP	45,174	294	53	23%	37%	26%	11%	3%	50%	40%	43%	38%
NSLP status unknown	239	301	57	21%	31%	29%	13%	5%	51%	41%	45%	42%
Special Ed Services	2,587	289	62	32%	32%	21%	10%	4%	46%	39%	41%	39%
No Special Ed Services	178,035	313	60	16%	31%	30%	18%	6%	55%	44%	49%	45%
Special Ed unknown	243	297	55	21%	37%	26%	12%	4%	52%	39%	44%	40%

Table 5.A.24: Demographic Summary for High School Mathematics

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters			
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Algebra I	Geometry	Algebra II	Probability and Statistics
All valid scores	80,062	341	72	6%	24%	29%	29%	12%	70%	65%	66%	50%
Grade 9	599	367	106	20%	6%	13%	30%	31%	74%	69%	69%	59%
Grade 10	10,760	370	74	3%	12%	26%	38%	21%	78%	72%	74%	59%
Grade 11	68,703	336	70	6%	26%	30%	28%	11%	68%	64%	64%	49%
Male	38,655	350	75	5%	21%	27%	31%	16%	72%	67%	68%	56%
Female	41,406	333	67	6%	27%	31%	27%	9%	68%	64%	64%	46%
Gender unknown	1	297	0	0%	100%	0%	0%	0%	56%	58%	48%	60%
American Indian	340	329	67	6%	28%	31%	27%	8%	66%	63%	63%	48%
Asian American	21,192	373	75	2%	14%	24%	36%	24%	78%	73%	74%	57%
Pacific Islander	372	318	63	8%	34%	28%	24%	6%	64%	59%	60%	44%
Filipino	3,661	321	59	6%	32%	33%	24%	5%	64%	61%	61%	41%
Hispanic	13,988	300	58	13%	39%	30%	16%	3%	57%	55%	55%	37%
African American	2,864	292	59	18%	40%	26%	14%	2%	55%	52%	52%	36%
White	37,022	344	66	4%	21%	32%	32%	11%	71%	66%	67%	54%
Ethnicity unknown	623	337	71	7%	22%	33%	27%	11%	69%	64%	64%	53%
English Only	51,825	340	69	5%	23%	31%	30%	11%	70%	65%	66%	52%
Initially Fluent English Prof.	12,177	359	78	4%	20%	26%	31%	20%	74%	69%	70%	54%
English Learner	2,911	316	78	16%	29%	24%	22%	9%	61%	59%	59%	38%
Re-designated Fluent Eng.	13,104	331	72	7%	29%	28%	25%	11%	67%	63%	64%	44%
English Prof. unknown	45	286	67	27%	38%	18%	18%	0%	53%	49%	50%	39%
Not in NSLP	64,858	348	71	4%	21%	29%	31%	14%	72%	67%	67%	53%
In NSLP	15,137	311	65	11%	35%	29%	20%	5%	61%	58%	58%	38%
NSLP status unknown	67	310	69	16%	28%	28%	19%	7%	60%	58%	57%	42%
Special Ed Services	660	303	87	30%	21%	19%	20%	10%	57%	54%	54%	44%
No Special Ed Services	79,341	341	71	5%	24%	29%	29%	12%	70%	66%	66%	51%
Special Ed unknown	61	328	78	11%	31%	20%	26%	11%	66%	64%	59%	51%

Table 5.A.25: Demographic Summary for Integrated Mathematics I

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Number Properties, Operations, and Linear Equations	Graphing	Quadratics and Polynomials	Functions and Rational Expressions	Geometry
All valid scores	9,401	278	46	29%	46%	18%	6%	1%	45%	35%	38%	28%	27%
Grade 8	369	302	44	16%	29%	39%	16%	0%	60%	49%	42%	25%	30%
Grade 9	3,807	293	54	21%	42%	24%	10%	2%	51%	40%	43%	31%	29%
Grade 10	2,536	264	36	37%	49%	11%	2%	0%	38%	30%	34%	26%	26%
Grade 11	2,689	266	35	33%	51%	14%	2%	0%	40%	30%	36%	25%	26%
Male	5,141	277	48	30%	46%	17%	6%	1%	44%	34%	38%	28%	28%
Female	4,256	279	45	27%	47%	20%	6%	1%	46%	36%	39%	28%	27%
Gender unknown	4	243	34	50%	50%	0%	0%	0%	30%	25%	23%	29%	24%
American Indian	69	268	42	30%	52%	10%	7%	0%	43%	33%	34%	29%	25%
Asian American	1,159	301	58	17%	42%	26%	12%	4%	52%	42%	46%	36%	31%
Pacific Islander	107	272	38	29%	56%	11%	4%	0%	42%	32%	38%	24%	27%
Filipino	489	285	47	24%	44%	22%	8%	1%	47%	38%	41%	28%	29%
Hispanic	3,198	264	37	37%	49%	11%	2%	0%	39%	30%	34%	25%	26%
African American	1,046	263	36	40%	46%	12%	2%	0%	38%	30%	35%	25%	25%
White	3,181	287	48	21%	45%	25%	8%	1%	50%	39%	41%	28%	28%
Ethnicity unknown	152	270	40	32%	49%	16%	3%	1%	43%	32%	37%	26%	26%
English Only	5,580	280	47	26%	46%	21%	6%	1%	47%	36%	39%	28%	27%
Initially Fluent English Prof.	939	284	52	26%	45%	20%	8%	2%	47%	37%	40%	29%	28%
English Learner	1,752	260	34	41%	49%	8%	2%	0%	36%	29%	33%	27%	25%
Re-designated Fluent Eng.	1,083	286	50	23%	46%	22%	8%	2%	48%	37%	42%	29%	29%
English Prof. unknown	47	275	45	34%	43%	17%	6%	0%	43%	35%	37%	29%	26%
Not in NSLP	6,092	283	48	24%	46%	21%	7%	1%	47%	37%	40%	28%	28%
In NSLP	3,266	268	41	36%	47%	13%	3%	1%	40%	31%	35%	27%	26%
NSLP status unknown	43	269	45	33%	53%	7%	7%	0%	41%	34%	34%	29%	26%
Special Ed Services	1,080	255	32	46%	47%	6%	1%	0%	34%	28%	31%	24%	25%
No Special Ed Services	8,279	281	47	26%	46%	20%	6%	1%	46%	36%	40%	28%	28%
Special Ed unknown	42	271	48	40%	38%	14%	7%	0%	42%	34%	36%	29%	26%

Table 5.A.26: Demographic Summary for Integrated Mathematics II

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Algebra I	Logic and Geometric Proofs	Angle Relationships, Constructions, and Lines	Trigonometry	Algebra II/ Probability and Statistics
All valid scores	7,875	315	55	11%	35%	33%	16%	5%	41%	40%	35%	38%	36%
Grade 8	208	399	68	0%	6%	20%	38%	37%	67%	61%	46%	59%	64%
Grade 9	1,755	345	59	4%	19%	36%	29%	12%	50%	49%	40%	46%	44%
Grade 10	3,990	311	49	11%	36%	35%	15%	3%	39%	39%	35%	37%	34%
Grade 11	1,922	289	36	18%	50%	25%	6%	0%	33%	32%	31%	30%	31%
Male	3,916	317	57	12%	34%	31%	18%	6%	42%	40%	36%	38%	37%
Female	3,958	314	52	10%	36%	34%	15%	4%	40%	39%	35%	38%	35%
Gender unknown	1	310	0	0%	0%	100%	0%	0%	30%	43%	44%	30%	40%
American Indian	41	307	47	20%	29%	39%	10%	2%	39%	38%	37%	35%	25%
Asian American	1,452	343	68	7%	24%	31%	24%	15%	48%	47%	40%	46%	42%
Pacific Islander	74	290	41	30%	38%	22%	11%	0%	34%	32%	32%	31%	30%
Filipino	385	312	53	13%	36%	30%	17%	4%	41%	38%	35%	38%	34%
Hispanic	2,026	295	42	16%	45%	29%	9%	1%	36%	34%	32%	31%	31%
African American	520	289	40	20%	52%	20%	8%	1%	33%	32%	31%	30%	31%
White	3,304	322	51	7%	30%	39%	19%	5%	42%	42%	36%	40%	38%
Ethnicity unknown	73	299	46	16%	48%	19%	15%	1%	35%	38%	31%	32%	30%
English Only	5,005	316	52	10%	34%	35%	17%	4%	41%	40%	35%	38%	37%
Initially Fluent English Prof.	786	328	64	9%	32%	29%	20%	10%	43%	44%	38%	41%	39%
English Learner	990	297	49	18%	43%	25%	11%	3%	36%	35%	33%	32%	29%
Re-designated Fluent Eng.	1,080	322	62	10%	35%	30%	15%	9%	43%	41%	37%	40%	37%
English Prof. unknown	14	328	61	7%	21%	57%	7%	7%	48%	40%	42%	39%	34%
Not in NSLP	5,972	320	56	9%	32%	34%	18%	6%	42%	41%	36%	39%	38%
In NSLP	1,890	301	49	16%	43%	27%	12%	3%	37%	36%	33%	34%	32%
NSLP status unknown	13	324	60	8%	23%	62%	0%	8%	43%	42%	40%	37%	34%
Special Ed Services	261	287	46	26%	46%	19%	6%	3%	33%	31%	31%	28%	31%
No Special Ed Services	7,598	316	55	10%	34%	33%	17%	5%	41%	40%	35%	38%	36%
Special Ed unknown	16	325	56	0%	38%	50%	6%	6%	43%	44%	37%	36%	38%

Table 5.A.27: Demographic Summary for Integrated Mathematics III

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Geometry	Polynomials and Rational Expressions	Quadratics, Conics, and Complex Numbers	Exponents and Logarithms	Series, Combinatorics, and Probability and Statistics
All valid scores	4,408	321	64	10%	28%	35%	21%	6%	58%	48%	41%	48%	46%
Grade 8	14	266	92	36%	57%	0%	0%	7%	40%	30%	31%	32%	30%
Grade 9	176	384	72	4%	5%	23%	43%	25%	69%	63%	57%	68%	59%
Grade 10	1,433	347	64	5%	15%	37%	33%	10%	64%	55%	47%	56%	54%
Grade 11	2,785	304	57	12%	37%	35%	14%	2%	55%	43%	38%	43%	41%
Male	2,196	326	69	10%	27%	34%	23%	7%	59%	48%	42%	50%	48%
Female	2,212	317	59	9%	30%	36%	20%	4%	57%	48%	41%	47%	44%
Gender unknown	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
American Indian	29	282	45	14%	62%	21%	0%	3%	48%	35%	40%	32%	34%
Asian American	1,031	348	76	6%	20%	31%	30%	13%	62%	57%	46%	54%	52%
Pacific Islander	32	298	48	6%	38%	47%	6%	3%	54%	40%	42%	37%	36%
Filipino	262	314	56	9%	33%	36%	19%	3%	55%	46%	39%	47%	43%
Hispanic	775	297	52	16%	38%	32%	13%	1%	52%	41%	36%	41%	39%
African American	198	290	52	20%	40%	28%	11%	2%	50%	39%	35%	40%	37%
White	2,048	323	59	8%	27%	39%	22%	5%	60%	47%	42%	49%	48%
Ethnicity unknown	33	294	62	24%	30%	30%	9%	6%	59%	41%	34%	41%	37%
English Only	2,936	320	60	9%	29%	37%	21%	5%	59%	47%	41%	48%	46%
Initially Fluent English Prof.	530	332	76	10%	26%	32%	22%	11%	59%	51%	43%	51%	49%
English Learner	297	321	82	16%	28%	27%	20%	10%	55%	50%	41%	47%	42%
Re-designated Fluent Eng.	637	322	62	8%	29%	34%	23%	5%	58%	50%	42%	47%	45%
English Prof. unknown	8	302	40	13%	38%	38%	13%	0%	70%	41%	36%	39%	42%
Not in NSLP	3,567	324	64	9%	28%	35%	22%	6%	59%	48%	42%	49%	47%
In NSLP	831	310	65	14%	32%	33%	17%	4%	55%	46%	38%	45%	41%
NSLP status unknown	10	315	60	20%	20%	30%	30%	0%	66%	52%	33%	45%	45%
Special Ed Services	76	264	60	43%	34%	16%	5%	1%	41%	33%	30%	31%	30%
No Special Ed Services	4,324	323	64	9%	28%	35%	21%	6%	59%	48%	42%	48%	46%
Special Ed unknown	8	297	31	13%	25%	63%	0%	0%	70%	41%	38%	33%	41%

Table 5.A.28: Demographic Summary for Grade 5 Science*

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced
All valid scores	483,931	318	44	10%	25%	41%	21%	3%
Male	246,865	320	46	11%	24%	39%	22%	4%
Female	236,983	317	41	9%	26%	43%	19%	2%
Gender unknown	83	298	39	18%	41%	33%	6%	2%
American Indian	3,789	316	40	9%	25%	44%	20%	2%
Asian American	39,019	341	48	5%	15%	38%	33%	9%
Pacific Islander	3,048	312	39	10%	28%	44%	17%	1%
Filipino	12,002	333	39	4%	15%	49%	30%	3%
Hispanic	232,741	303	36	14%	34%	42%	10%	1%
African American	39,458	303	37	15%	33%	41%	11%	1%
White	150,507	340	44	4%	13%	41%	36%	6%
Ethnicity unknown	3,367	325	47	9%	22%	37%	27%	5%
English Only	268,461	329	45	7%	19%	42%	28%	5%
Initially Fluent English Prof.	38,496	331	44	5%	18%	46%	26%	5%
English Learner	133,366	291	31	19%	42%	35%	4%	0%
Re-designated Fluent Eng.	42,796	328	36	3%	16%	56%	23%	2%
English Prof. unknown	812	308	44	16%	30%	36%	17%	2%
Not in NSLP	213,653	339	44	4%	14%	41%	34%	7%
In NSLP	269,188	302	36	14%	34%	41%	10%	1%
NSLP status unknown	1,090	306	43	16%	33%	36%	13%	2%
Special Ed Services	45,133	294	41	25%	36%	28%	9%	1%
No Special Ed Services	437,350	321	43	8%	24%	43%	22%	3%
Special Ed unknown	1,448	308	44	15%	29%	38%	15%	3%

*Reporting clusters were not reported for 2004 Grade 5 Science

Table 5.A.29: Demographic Summary for Biology

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Cell Biology	Genetics	Ecology and Evolution	Physiology
All valid scores	394,912	330	45	11%	18%	41%	22%	8%	45%	46%	53%	51%	62%
Grade 9	122,360	338	46	9%	14%	38%	28%	12%	49%	50%	56%	55%	64%
Grade 10	201,785	325	42	12%	19%	43%	20%	6%	43%	44%	51%	49%	60%
Grade 11	70,767	328	49	13%	19%	38%	20%	10%	45%	46%	51%	50%	61%
Male	192,976	329	48	13%	18%	37%	22%	9%	45%	47%	52%	51%	61%
Female	201,880	330	42	9%	17%	44%	23%	7%	45%	46%	53%	51%	62%
Gender unknown	56	309	45	30%	16%	36%	13%	5%	35%	41%	43%	42%	52%
American Indian	3,087	326	42	12%	18%	43%	22%	6%	44%	45%	51%	50%	62%
Asian American	42,225	353	48	5%	9%	36%	32%	19%	55%	57%	62%	61%	68%
Pacific Islander	2,551	320	40	12%	22%	43%	18%	4%	41%	43%	49%	46%	57%
Filipino	12,697	339	39	5%	11%	46%	30%	8%	49%	51%	56%	55%	66%
Hispanic	153,211	312	37	16%	25%	44%	13%	2%	38%	39%	46%	43%	54%
African American	30,713	309	37	19%	26%	42%	12%	2%	37%	39%	45%	41%	54%
White	146,635	345	45	6%	11%	39%	32%	13%	52%	52%	58%	58%	69%
Ethnicity unknown	3,793	325	47	16%	19%	37%	21%	8%	44%	45%	50%	49%	60%
English Only	244,579	336	46	9%	14%	40%	26%	10%	48%	49%	55%	54%	65%
Initially Fluent English Prof.	38,211	340	46	7%	13%	42%	26%	12%	49%	51%	56%	55%	65%
English Learner	57,632	296	30	25%	35%	35%	4%	1%	31%	35%	41%	35%	45%
Re-designated Fluent Eng.	53,895	329	39	7%	16%	50%	21%	6%	44%	46%	53%	51%	62%
English Prof. unknown	595	310	41	21%	25%	38%	12%	4%	37%	39%	44%	43%	53%
Not in NSLP	259,876	338	46	8%	14%	40%	27%	11%	49%	50%	56%	55%	65%
In NSLP	134,207	312	38	16%	25%	43%	13%	3%	38%	40%	46%	43%	54%
NSLP status unknown	829	309	41	22%	26%	34%	14%	3%	38%	39%	44%	42%	53%
Special Ed Services	23,434	293	36	35%	32%	25%	6%	2%	32%	33%	38%	34%	44%
No Special Ed Services	370,588	332	45	9%	17%	42%	23%	9%	46%	47%	53%	52%	63%
Special Ed unknown	890	312	42	21%	25%	37%	14%	4%	38%	40%	45%	44%	54%

Table 5.A.30: Demographic Summary for Chemistry

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters					
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Atomic and Molecular Structure	Chemical Bonds, Biochemistry	Kinetics, Thermodynamics	Chemical Reactions	Conservation of Matter and Stoichiometry
All valid scores	180,379	326	46	12%	19%	41%	21%	8%	65%	54%	56%	47%	47%	47%
Grade 9	2,270	336	55	14%	14%	31%	27%	14%	67%	60%	60%	52%	50%	53%
Grade 10	73,066	334	47	9%	15%	41%	26%	10%	69%	58%	60%	51%	50%	51%
Grade 11	105,043	320	45	14%	21%	42%	17%	6%	63%	52%	53%	45%	45%	45%
Male	82,862	330	51	13%	17%	37%	23%	11%	66%	57%	57%	50%	49%	49%
Female	97,510	322	42	11%	20%	45%	19%	5%	65%	53%	55%	45%	45%	46%
Gender unknown	7	282	36	29%	43%	29%	0%	0%	52%	32%	37%	29%	23%	40%
American Indian	1,007	322	41	11%	18%	45%	20%	5%	66%	53%	53%	47%	46%	46%
Asian American	29,795	345	51	6%	12%	39%	28%	15%	70%	61%	65%	54%	54%	58%
Pacific Islander	1,096	313	38	14%	24%	45%	15%	3%	59%	50%	52%	42%	41%	42%
Filipino	8,145	323	38	9%	19%	49%	20%	4%	65%	53%	56%	46%	46%	46%
Hispanic	53,224	305	35	20%	28%	41%	10%	2%	55%	46%	47%	38%	39%	38%
African American	12,083	300	35	25%	29%	37%	8%	1%	52%	44%	45%	36%	37%	36%
White	73,755	338	46	7%	13%	43%	27%	10%	73%	60%	60%	53%	51%	52%
Ethnicity unknown	1,274	330	49	12%	17%	38%	23%	10%	68%	56%	57%	50%	49%	48%
English Only	113,869	331	47	10%	16%	42%	23%	9%	69%	57%	58%	50%	49%	49%
Initially Fluent English Prof.	22,279	332	49	9%	17%	42%	22%	10%	68%	57%	59%	49%	49%	50%
English Learner	13,260	293	34	31%	33%	29%	5%	1%	43%	40%	43%	34%	35%	36%
Re-designated Fluent Eng.	30,815	317	41	13%	24%	44%	15%	5%	60%	51%	53%	43%	43%	45%
English Prof. unknown	156	312	42	16%	28%	37%	14%	5%	60%	47%	51%	42%	42%	41%
Not in NSLP	131,644	333	47	9%	16%	42%	24%	10%	69%	57%	59%	50%	49%	50%
In NSLP	48,528	307	38	19%	27%	40%	11%	2%	55%	47%	49%	39%	40%	40%
NSLP status unknown	207	313	42	17%	25%	40%	13%	5%	59%	47%	51%	42%	43%	42%
Special Ed Services	3,254	299	44	33%	28%	26%	9%	4%	48%	43%	43%	37%	37%	36%
No Special Ed Services	176,912	326	46	12%	18%	42%	21%	8%	66%	55%	56%	47%	47%	48%
Special Ed unknown	213	314	50	16%	30%	33%	13%	7%	59%	47%	50%	43%	43%	42%

Table 5.A.31: Demographic Summary for Earth Science

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters			
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Astronomy and Cosmology	Solid Earth	The Earth's Energy
All valid scores	133,741	315	43	19%	22%	37%	17%	5%	50%	50%	48%	45%
Grade 9	91,908	319	43	17%	21%	38%	19%	6%	52%	52%	49%	46%
Grade 10	21,849	305	40	26%	25%	33%	13%	3%	45%	45%	43%	41%
Grade 11	19,984	311	42	22%	23%	35%	16%	4%	48%	48%	45%	43%
Male	70,575	318	45	19%	20%	34%	19%	7%	50%	52%	48%	46%
Female	63,146	312	40	19%	24%	39%	15%	4%	50%	48%	47%	43%
Gender unknown	20	289	33	35%	40%	15%	10%	0%	38%	34%	33%	37%
American Indian	1,401	315	41	17%	23%	38%	18%	4%	49%	50%	48%	44%
Asian American	8,813	327	44	12%	16%	40%	22%	8%	55%	55%	53%	50%
Pacific Islander	901	309	38	21%	24%	39%	15%	2%	46%	47%	45%	42%
Filipino	2,739	328	41	10%	16%	42%	25%	6%	57%	56%	53%	49%
Hispanic	59,004	302	36	25%	27%	36%	10%	2%	44%	44%	42%	39%
African American	11,124	299	36	29%	28%	33%	9%	1%	42%	42%	41%	38%
White	48,371	332	45	11%	15%	37%	27%	10%	59%	58%	55%	51%
Ethnicity unknown	1,388	309	44	24%	23%	32%	16%	5%	48%	47%	45%	42%
English Only	84,098	322	44	16%	19%	37%	21%	7%	54%	53%	51%	47%
Initially Fluent English Prof.	10,319	318	40	15%	21%	42%	18%	4%	52%	51%	48%	45%
English Learner	26,506	290	30	34%	33%	29%	4%	0%	36%	38%	37%	35%
Re-designated Fluent Eng.	12,466	320	38	11%	20%	46%	19%	4%	54%	52%	49%	46%
English Prof. unknown	352	298	37	33%	28%	30%	8%	2%	40%	42%	40%	38%
Not in NSLP	81,330	323	45	15%	18%	37%	22%	8%	55%	54%	51%	48%
In NSLP	51,953	303	37	25%	27%	36%	10%	2%	43%	44%	42%	40%
NSLP status unknown	458	297	37	31%	31%	28%	9%	2%	40%	41%	39%	38%
Special Ed Services	13,770	289	34	40%	30%	23%	6%	2%	35%	38%	37%	35%
No Special Ed Services	119,537	318	43	16%	21%	38%	19%	6%	52%	52%	49%	46%
Special Ed unknown	434	297	36	31%	31%	29%	8%	2%	40%	41%	40%	37%

Table 5.A.32: Demographic Summary for Physics

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters					
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Motion and Forces	Conservation of Energy and Momentum	Heat and Thermodynamics	Waves	Electric and Magnetic Phenomena
All valid scores	52,103	323	49	18%	18%	34%	20%	9%	54%	57%	52%	55%	51%	42%
Grade 9	14,612	299	38	30%	28%	31%	9%	2%	41%	46%	41%	43%	43%	33%
Grade 10	7,723	312	47	25%	21%	32%	16%	6%	48%	53%	46%	50%	48%	38%
Grade 11	29,768	338	49	10%	13%	36%	27%	14%	62%	64%	58%	62%	55%	48%
Male	27,426	329	53	17%	16%	32%	22%	12%	56%	60%	53%	57%	53%	45%
Female	24,675	317	44	19%	21%	37%	17%	6%	51%	54%	50%	52%	49%	39%
Gender unknown	2	274	6	50%	50%	0%	0%	0%	25%	42%	17%	28%	50%	18%
American Indian	339	318	45	18%	19%	38%	19%	6%	53%	54%	48%	53%	50%	40%
Asian American	8,706	346	50	7%	12%	35%	29%	17%	63%	66%	63%	64%	57%	51%
Pacific Islander	356	309	41	22%	25%	32%	17%	4%	48%	53%	45%	48%	47%	36%
Filipino	2,538	320	39	12%	20%	46%	18%	5%	51%	56%	52%	53%	51%	41%
Hispanic	14,244	298	38	32%	27%	30%	9%	2%	41%	46%	41%	43%	42%	33%
African American	3,752	291	35	37%	30%	26%	6%	1%	37%	43%	38%	40%	40%	31%
White	21,755	337	49	10%	14%	37%	27%	13%	62%	63%	57%	62%	56%	47%
Ethnicity unknown	413	316	48	23%	19%	34%	16%	8%	54%	55%	47%	53%	47%	39%
English Only	32,863	329	49	15%	16%	36%	23%	11%	57%	60%	53%	58%	53%	44%
Initially Fluent English Prof.	6,408	334	51	12%	16%	36%	23%	13%	58%	61%	57%	59%	54%	46%
English Learner	4,879	283	33	48%	30%	17%	4%	1%	32%	40%	35%	35%	36%	29%
Re-designated Fluent Eng.	7,911	316	44	18%	22%	37%	16%	6%	49%	54%	50%	51%	48%	40%
English Prof. unknown	42	308	49	29%	21%	33%	10%	7%	42%	51%	46%	50%	43%	37%
Not in NSLP	38,513	332	50	13%	15%	36%	24%	12%	58%	61%	55%	59%	54%	45%
In NSLP	13,518	299	39	31%	27%	30%	9%	2%	41%	47%	42%	43%	42%	34%
NSLP status unknown	72	306	52	36%	18%	25%	13%	8%	46%	47%	42%	50%	43%	39%
Special Ed Services	1,943	281	35	53%	27%	14%	4%	2%	34%	38%	31%	36%	35%	30%
No Special Ed Services	50,091	325	49	17%	18%	35%	21%	10%	55%	58%	52%	56%	51%	43%
Special Ed unknown	69	308	48	29%	20%	32%	13%	6%	46%	51%	44%	49%	44%	37%

Table 5.A.33: Demographic Summary for Integrated Science I

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	100,861	294	32	27%	33%	34%	5%	0%	43%	43%	33%	43%	35%
Grade 9	74,387	296	32	25%	33%	36%	6%	1%	44%	44%	34%	45%	36%
Grade 10	17,217	287	29	35%	35%	27%	3%	0%	40%	40%	30%	40%	33%
Grade 11	9,257	287	30	35%	35%	27%	3%	0%	40%	40%	31%	39%	33%
Male	53,150	294	34	29%	31%	33%	6%	1%	42%	44%	33%	44%	35%
Female	47,696	293	29	26%	36%	35%	4%	0%	43%	42%	33%	43%	34%
Gender unknown	15	287	31	27%	33%	40%	0%	0%	56%	43%	32%	35%	27%
American Indian	898	295	31	24%	34%	37%	5%	0%	43%	44%	33%	44%	36%
Asian American	7,408	308	35	15%	28%	45%	11%	2%	49%	51%	39%	51%	39%
Pacific Islander	808	287	29	33%	36%	28%	3%	0%	38%	40%	31%	40%	33%
Filipino	3,170	304	29	15%	30%	48%	6%	0%	46%	50%	36%	49%	38%
Hispanic	48,244	285	27	35%	38%	26%	2%	0%	39%	38%	30%	39%	32%
African American	10,016	284	27	37%	37%	24%	2%	0%	39%	38%	30%	38%	31%
White	29,329	306	34	17%	27%	45%	10%	1%	49%	51%	36%	50%	40%
Ethnicity unknown	988	295	33	28%	32%	34%	6%	1%	44%	43%	34%	44%	35%
English Only	57,792	298	33	24%	31%	38%	7%	1%	45%	46%	34%	46%	37%
Initially Fluent English Prof.	8,225	301	32	20%	31%	42%	7%	1%	46%	48%	35%	47%	37%
English Learner	21,196	278	24	44%	40%	15%	1%	0%	34%	32%	29%	35%	29%
Re-designated Fluent Eng.	13,464	296	28	21%	36%	39%	4%	0%	44%	45%	34%	45%	35%
English Prof. unknown	184	282	29	42%	29%	26%	3%	0%	36%	38%	30%	38%	31%
Not in NSLP	58,535	300	33	22%	30%	40%	7%	1%	46%	47%	34%	47%	37%
In NSLP	42,070	285	27	35%	38%	26%	2%	0%	39%	38%	31%	39%	32%
NSLP status unknown	256	286	30	38%	31%	27%	4%	0%	39%	39%	30%	39%	33%
Special Ed Services	10,307	276	26	50%	35%	14%	1%	0%	34%	33%	28%	34%	29%
No Special Ed Services	90,316	296	32	25%	33%	36%	6%	1%	44%	44%	33%	45%	36%
Special Ed unknown	238	283	28	39%	32%	26%	2%	0%	38%	38%	30%	38%	32%

Table 5.A.34: Demographic Summary for Integrated Science II

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	24,461	299	35	26%	28%	37%	7%	1%	45%	42%	37%	46%	33%
Grade 9	4,223	300	36	27%	26%	37%	9%	1%	45%	43%	39%	46%	34%
Grade 10	15,317	301	35	24%	28%	38%	8%	2%	46%	43%	38%	47%	34%
Grade 11	4,921	293	30	30%	30%	35%	4%	0%	42%	40%	32%	43%	31%
Male	12,807	300	36	26%	27%	37%	8%	2%	46%	42%	36%	47%	34%
Female	11,649	298	33	25%	30%	37%	7%	1%	44%	43%	38%	44%	33%
Gender unknown	5	283	26	60%	0%	40%	0%	0%	27%	27%	33%	44%	32%
American Indian	185	299	30	23%	25%	48%	3%	1%	50%	40%	34%	48%	32%
Asian American	2,733	322	42	13%	18%	44%	19%	6%	57%	53%	50%	54%	42%
Pacific Islander	205	291	27	30%	34%	35%	1%	0%	38%	39%	32%	42%	31%
Filipino	977	304	30	16%	28%	48%	8%	1%	47%	44%	41%	49%	34%
Hispanic	11,199	288	28	34%	34%	30%	2%	0%	38%	37%	32%	40%	30%
African American	2,105	288	28	35%	32%	30%	2%	0%	37%	38%	31%	39%	30%
White	6,889	311	36	16%	22%	47%	13%	2%	54%	47%	41%	53%	36%
Ethnicity unknown	168	305	38	25%	23%	36%	14%	2%	51%	46%	38%	48%	35%
English Only	12,856	304	36	22%	25%	42%	9%	1%	49%	44%	38%	49%	34%
Initially Fluent English Prof.	2,346	310	41	19%	25%	38%	14%	4%	52%	47%	43%	51%	37%
English Learner	4,977	282	25	43%	36%	20%	1%	0%	33%	35%	30%	35%	29%
Re-designated Fluent Eng.	4,244	300	31	20%	30%	43%	5%	1%	45%	43%	38%	46%	33%
English Prof. unknown	38	295	25	18%	45%	34%	3%	0%	44%	39%	36%	43%	32%
Not in NSLP	15,537	305	37	21%	25%	41%	10%	2%	50%	45%	39%	49%	35%
In NSLP	8,866	288	28	34%	33%	31%	2%	0%	38%	38%	33%	40%	30%
NSLP status unknown	58	294	31	21%	28%	48%	3%	0%	43%	39%	36%	42%	34%
Special Ed Services	2,457	278	26	50%	32%	16%	2%	0%	32%	34%	27%	35%	28%
No Special Ed Services	21,941	301	35	23%	28%	40%	8%	1%	47%	43%	38%	47%	34%
Special Ed unknown	63	288	26	30%	43%	25%	2%	0%	39%	37%	30%	41%	29%

Table 5.A.35: Demographic Summary for Integrated Science III

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	5,852	302	30	14%	36%	42%	7%	1%	42%	42%	31%	40%	35%
Grade 9	1,395	304	29	12%	36%	45%	7%	1%	44%	41%	31%	44%	36%
Grade 10	1,885	302	30	14%	36%	43%	6%	1%	42%	42%	32%	38%	35%
Grade 11	2,572	301	31	15%	37%	39%	7%	2%	40%	42%	31%	39%	35%
Male	2,923	303	32	15%	36%	41%	7%	2%	42%	42%	32%	41%	36%
Female	2,928	301	28	14%	37%	43%	6%	1%	41%	42%	31%	39%	34%
Gender unknown	1	308	0	0%	0%	100%	0%	0%	17%	56%	17%	71%	50%
American Indian	56	302	27	18%	29%	46%	7%	0%	42%	40%	31%	39%	41%
Asian American	667	310	33	11%	28%	48%	11%	1%	45%	44%	36%	45%	38%
Pacific Islander	38	291	15	11%	61%	29%	0%	0%	33%	36%	28%	30%	33%
Filipino	168	304	30	14%	32%	48%	5%	2%	44%	45%	30%	43%	34%
Hispanic	2,178	293	24	19%	45%	34%	2%	0%	34%	37%	28%	34%	32%
African American	536	292	25	20%	45%	34%	2%	0%	35%	38%	28%	35%	30%
White	2,139	311	32	9%	29%	49%	11%	2%	49%	46%	34%	45%	38%
Ethnicity unknown	70	315	33	10%	24%	53%	11%	1%	50%	47%	35%	51%	41%
English Only	3,534	306	31	12%	34%	45%	8%	1%	45%	44%	32%	42%	36%
Initially Fluent English Prof.	425	307	31	11%	32%	46%	10%	1%	43%	45%	33%	42%	36%
English Learner	891	286	21	27%	47%	25%	1%	0%	28%	34%	27%	30%	30%
Re-designated Fluent Eng.	984	303	29	12%	36%	45%	6%	1%	42%	42%	32%	41%	35%
English Prof. unknown	18	284	19	44%	33%	22%	0%	0%	28%	33%	29%	29%	24%
Not in NSLP	3,888	306	32	12%	33%	45%	8%	1%	45%	44%	32%	42%	36%
In NSLP	1,957	295	25	18%	42%	36%	3%	0%	35%	38%	29%	35%	33%
NSLP status unknown	7	282	12	29%	71%	0%	0%	0%	31%	30%	27%	31%	21%
Special Ed Services	454	284	22	31%	50%	17%	2%	0%	28%	34%	26%	30%	28%
No Special Ed Services	5,388	304	30	13%	35%	44%	7%	1%	43%	43%	32%	41%	36%
Special Ed unknown	10	286	19	40%	30%	30%	0%	0%	33%	33%	28%	31%	24%

Table 5.A.36: Demographic Summary for Integrated Science IV

	Number Tested	Mean Scaled Score	Std. Dev. of Scaled Scores	Percent in Performance Level					Mean Percent Correct in Reporting Clusters				
				Far Below Basic	Below Basic	Basic	Proficient	Advanced	Investigation and Experimentation	Biology/Life Sciences	Chemistry	Earth Sciences	Physics
All valid scores	1,576	301	33	23%	28%	40%	8%	0%	43%	55%	36%	45%	34%
Grade 9	576	300	28	19%	29%	47%	5%	0%	43%	56%	35%	45%	34%
Grade 10	739	300	33	24%	29%	38%	9%	0%	43%	54%	36%	45%	33%
Grade 11	261	303	39	29%	23%	32%	15%	2%	44%	55%	36%	47%	36%
Male	852	301	35	24%	26%	39%	10%	1%	43%	54%	35%	46%	35%
Female	717	300	30	21%	31%	42%	6%	0%	44%	56%	36%	44%	33%
Gender unknown	7	284	20	43%	29%	29%	0%	0%	29%	42%	30%	38%	31%
American Indian	9	319	29	11%	11%	78%	0%	0%	63%	64%	39%	55%	40%
Asian American	395	305	28	14%	30%	49%	7%	1%	44%	56%	38%	47%	36%
Pacific Islander	9	302	35	11%	44%	22%	22%	0%	57%	56%	30%	43%	35%
Filipino	51	311	27	4%	29%	57%	10%	0%	51%	61%	35%	52%	37%
Hispanic	548	288	27	35%	33%	29%	3%	0%	37%	48%	32%	38%	30%
African American	61	295	32	30%	31%	33%	5%	2%	41%	53%	33%	41%	33%
White	480	311	38	18%	21%	45%	16%	1%	49%	61%	39%	52%	36%
Ethnicity unknown	23	302	32	22%	30%	35%	13%	0%	40%	57%	38%	47%	33%
English Only	850	306	36	21%	22%	44%	12%	1%	47%	58%	37%	49%	35%
Initially Fluent English Prof.	85	301	30	24%	22%	51%	4%	0%	45%	55%	35%	45%	33%
English Learner	401	284	23	36%	40%	23%	1%	0%	32%	44%	33%	36%	30%
Re-designated Fluent Eng.	236	308	25	6%	33%	54%	7%	0%	47%	60%	36%	48%	36%
English Prof. unknown	4	319	40	0%	50%	25%	25%	0%	54%	69%	38%	55%	38%
Not in NSLP	1,027	305	34	19%	25%	44%	11%	1%	46%	58%	37%	48%	35%
In NSLP	544	293	28	29%	34%	33%	4%	0%	38%	49%	34%	41%	32%
NSLP status unknown	5	295	44	40%	40%	0%	20%	0%	47%	63%	34%	39%	24%
Special Ed Services	177	279	28	49%	32%	16%	3%	0%	31%	42%	29%	33%	29%
No Special Ed Services	1,397	303	32	19%	28%	44%	9%	1%	45%	56%	37%	47%	35%
Special Ed unknown	2	330	57	0%	50%	0%	50%	0%	58%	77%	35%	67%	38%

Appendix 5.B

Table 5.B.1: Accommodation Summary for English-language Arts Grade 2

All Tested	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	35	0	0	0	35	0.01%
Large print	178	0	0	0	178	0.04%
IEP accommodations	10,230	0	0	0	10,230	2.14%
504 Plan accommodations	243	0	0	0	243	0.05%
EL accommodations	5,838	0	0	0	5,838	1.22%
Adult read test to student	3,087	0	0	0	3,087	0.65%
Used dictionary, glossary, or word book	70	0	0	0	70	0.01%
Unique modifications	290	0	0	0	290	0.06%
<i>Any accommodation or modification</i>	16,892	0	0	0	16,892	3.53%
<i>No accommodations or modifications</i>	461,035	0	0	0	461,035	96.47%
English Learners	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	12	0	0	0	12	0.01%
Large print	66	0	0	0	66	0.03%
IEP accommodations	3,807	0	0	0	3,807	1.77%
504 Plan accommodations	78	0	0	0	78	0.04%
EL accommodations	5,736	0	0	0	5,736	2.67%
Adult read test to student	1,231	0	0	0	1,231	0.57%
Used dictionary, glossary, or word book	32	0	0	0	32	0.01%
Unique modifications	128	0	0	0	128	0.06%
<i>Any accommodation or modification</i>	9,779	0	0	0	9,779	4.55%
<i>No accommodations or modifications</i>	204,951	0	0	0	204,951	95.45%
Special Education Students	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	18	0	0	0	18	0.05%
Large print	120	0	0	0	120	0.31%
IEP accommodations	8,599	0	0	0	8,599	22.25%
504 Plan accommodations	28	0	0	0	28	0.07%
EL accommodations	309	0	0	0	309	0.80%
Adult read test to student	2,703	0	0	0	2,703	6.99%
Used dictionary, glossary, or word book	55	0	0	0	55	0.14%
Unique modifications	246	0	0	0	246	0.64%
<i>Any accommodation or modification</i>	9,377	0	0	0	9,377	24.26%
<i>No accommodations or modifications</i>	29,278	0	0	0	29,278	75.74%

Table 5.B.2: Accommodation Summary for English-language Arts Grade 3

All Tested	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	30	0	0	0	30	0.01%
Large print	234	0	6	0	240	0.05%
IEP accommodations	13,583	0	1,150	0	14,733	3.02%
504 Plan accommodations	323	0	10	0	333	0.07%
EL accommodations	3,979	0	29	0	4,008	0.82%
Adult read test to student	3,659	0	494	0	4,153	0.85%
Used dictionary, glossary, or word book	100	0	29	0	129	0.03%
Unique modifications	269	0	59	0	328	0.07%
<i>Any accommodation or modification</i>	18,459	0	1,250	0	19,709	4.04%
<i>No accommodations or modifications</i>	467,751	0	394	0	468,145	95.96%
English Learners	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	14	0	0	0	14	0.01%
Large print	71	0	2	0	73	0.03%
IEP accommodations	5,385	0	622	0	6,007	2.75%
504 Plan accommodations	74	0	6	0	80	0.04%
EL accommodations	3,884	0	23	0	3,907	1.79%
Adult read test to student	1,596	0	282	0	1,878	0.86%
Used dictionary, glossary, or word book	52	0	13	0	65	0.03%
Unique modifications	115	0	17	0	132	0.06%
<i>Any accommodation or modification</i>	9,506	0	677	0	10,183	4.67%
<i>No accommodations or modifications</i>	207,746	0	190	0	207,936	95.33%
Special Education Students	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	20	0	0	0	20	0.04%
Large print	183	0	6	0	189	0.40%
IEP accommodations	11,738	0	1,108	0	12,846	27.23%
504 Plan accommodations	63	0	7	0	70	0.15%
EL accommodations	297	0	29	0	326	0.69%
Adult read test to student	3,250	0	468	0	3,718	7.88%
Used dictionary, glossary, or word book	82	0	29	0	111	0.24%
Unique modifications	240	0	59	0	299	0.63%
<i>Any accommodation or modification</i>	12,588	0	1,203	0	13,791	29.23%
<i>No accommodations or modifications</i>	33,031	0	357	0	33,388	70.77%

Table 5.B.3: Accommodation Summary for English-language Arts Grade 4

All Tested	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	41	1	2	0	44	0.01%
Large print	225	9	6	0	240	0.05%
IEP accommodations	16,235	940	897	0	18,072	3.66%
504 Plan accommodations	377	3	5	0	385	0.08%
EL accommodations	3,688	15	2	0	3,705	0.75%
Adult read test to student	3,997	329	252	0	4,578	0.93%
Used dictionary, glossary, or word book	155	18	22	0	195	0.04%
Unique modifications	308	21	33	0	362	0.07%
Writing: Braille	32	0	1	0	33	0.01%
Writing: Large print	168	3	3	0	174	0.04%
Writing: IEP accommodations	9,942	508	604	0	11,054	2.24%
Writing: 504 Plan accommodations	260	2	1	0	263	0.05%
Writing: EL accommodations	3,912	6	3	0	3,921	0.79%
Writing: Adult read test to student	5,207	292	265	0	5,764	1.17%
Writing: Used dictionary, glossary, or word book	598	37	33	0	668	0.14%
Writing: Dictated response to scribe	276	13	5	0	294	0.06%
Writing: Used word processing software	96	24	2	0	122	0.02%
Writing: Unique modifications	283	33	8	0	324	0.07%
Any accommodation or modification	26,417	1,115	1,095	0	28,627	5.80%
No accommodations or modifications	464,067	294	363	0	464,724	94.20%
English Learners	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	16	1	1	0	18	0.01%
Large print	73	2	2	0	77	0.03%
IEP accommodations	6,344	453	440	0	7,237	3.28%
504 Plan accommodations	71	1	3	0	75	0.03%
EL accommodations	3,595	15	1	0	3,611	1.64%
Adult read test to student	1,732	165	109	0	2,006	0.91%
Used dictionary, glossary, or word book	88	10	12	0	110	0.05%
Unique modifications	133	6	11	0	150	0.07%
Writing: Braille	9	0	1	0	10	0.00%
Writing: Large print	58	1	2	0	61	0.03%
Writing: IEP accommodations	3,887	253	310	0	4,450	2.02%
Writing: 504 Plan accommodations	40	1	0	0	41	0.02%
Writing: EL accommodations	3,817	6	3	0	3,826	1.73%
Writing: Adult read test to student	2,105	148	117	0	2,370	1.07%
Writing: Used dictionary, glossary, or word book	293	20	16	0	329	0.15%
Writing: Dictated response to scribe	89	0	1	0	90	0.04%
Writing: Used word processing software	18	16	0	0	34	0.02%
Writing: Unique modifications	120	14	4	0	138	0.06%
Any accommodation or modification	13,543	542	541	0	14,626	6.62%
No accommodations or modifications	205,836	130	191	0	206,157	93.38%
Special Education Students	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	35	1	2	0	38	0.07%
Large print	185	8	6	0	199	0.38%
IEP accommodations	14,346	907	868	0	16,121	30.98%
504 Plan accommodations	66	1	3	0	70	0.13%
EL accommodations	252	14	2	0	268	0.52%
Adult read test to student	3,616	321	245	0	4,182	8.04%
Used dictionary, glossary, or word book	144	17	20	0	181	0.35%
Unique modifications	266	20	33	0	319	0.61%
Writing: Braille	25	0	1	0	26	0.05%
Writing: Large print	137	3	3	0	143	0.27%
Writing: IEP accommodations	9,028	495	595	0	10,118	19.44%
Writing: 504 Plan accommodations	50	2	1	0	53	0.10%
Writing: EL accommodations	258	6	3	0	267	0.51%
Writing: Adult read test to student	4,756	287	260	0	5,303	10.19%
Writing: Used dictionary, glossary, or word book	565	36	30	0	631	1.21%
Writing: Dictated response to scribe	250	12	5	0	267	0.51%
Writing: Used word processing software	80	24	2	0	106	0.20%
Writing: Unique modifications	251	32	8	0	291	0.56%
Any accommodation or modification	18,202	1,071	1,061	0	20,334	39.08%
No accommodations or modifications	31,075	280	347	0	31,702	60.92%

Table 5.B.4: Accommodation Summary for English-language Arts Grade 5

All Tested	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	29	1	1	0	31	0.01%
Large print	218	3	4	0	225	0.05%
IEP accommodations	15,040	558	832	0	16,430	3.36%
504 Plan accommodations	387	4	4	0	395	0.08%
EL accommodations	2,350	2	28	0	2,380	0.49%
Adult read test to student	3,046	158	214	0	3,418	0.70%
Used dictionary, glossary, or word book	168	19	18	0	205	0.04%
Unique modifications	206	11	19	0	236	0.05%
<i>Any accommodation or modification</i>	18,310	600	864	0	19,774	4.04%
<i>No accommodations or modifications</i>	468,859	369	710	0	469,938	95.96%
English Learners	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	14	0	0	0	14	0.01%
Large print	62	0	0	0	62	0.03%
IEP accommodations	5,899	214	417	0	6,530	3.01%
504 Plan accommodations	78	3	0	0	81	0.04%
EL accommodations	2,276	2	27	0	2,305	1.06%
Adult read test to student	1,326	60	99	0	1,485	0.68%
Used dictionary, glossary, or word book	76	10	5	0	91	0.04%
Unique modifications	83	10	11	0	104	0.05%
<i>Any accommodation or modification</i>	8,401	232	434	0	9,067	4.18%
<i>No accommodations or modifications</i>	207,456	118	373	0	207,947	95.82%
Special Education Students	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	25	1	1	0	27	0.06%
Large print	165	3	4	0	172	0.35%
IEP accommodations	13,568	511	822	0	14,901	30.53%
504 Plan accommodations	57	1	3	0	61	0.12%
EL accommodations	188	1	28	0	217	0.44%
Adult read test to student	2,795	137	211	0	3,143	6.44%
Used dictionary, glossary, or word book	148	17	17	0	182	0.37%
Unique modifications	185	9	19	0	213	0.44%
<i>Any accommodation or modification</i>	14,265	549	853	0	15,667	32.10%
<i>No accommodations or modifications</i>	32,117	355	672	0	33,144	67.90%

Table 5.B.5: Accommodation Summary for English-language Arts Grade 6

All Tested	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	36	1	2	0	39	0.01%
Large print	184	3	5	0	192	0.04%
IEP accommodations	12,284	358	771	0	13,413	2.76%
504 Plan accommodations	236	6	3	0	245	0.05%
EL accommodations	2,926	3	11	0	2,940	0.60%
Adult read test to student	2,249	100	152	0	2,501	0.51%
Used dictionary, glossary, or word book	103	7	20	0	130	0.03%
Unique modifications	133	0	8	0	141	0.03%
<i>Any accommodation or modification</i>	15,884	403	797	0	17,084	3.51%
<i>No accommodations or modifications</i>	468,090	425	733	0	469,248	96.49%
English Learners	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	15	0	0	0	15	0.01%
Large print	51	0	4	0	55	0.03%
IEP accommodations	4,548	133	395	0	5,076	2.42%
504 Plan accommodations	26	2	0	0	28	0.01%
EL accommodations	2,793	2	6	0	2,801	1.34%
Adult read test to student	930	45	59	0	1,034	0.49%
Used dictionary, glossary, or word book	34	4	6	0	44	0.02%
Unique modifications	28	0	1	0	29	0.01%
<i>Any accommodation or modification</i>	7,480	153	399	0	8,032	3.83%
<i>No accommodations or modifications</i>	200,976	172	369	0	201,517	96.17%
Special Education Students	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	27	1	2	0	30	0.06%
Large print	145	3	5	0	153	0.32%
IEP accommodations	11,096	343	750	0	12,189	25.70%
504 Plan accommodations	37	2	0	0	39	0.08%
EL accommodations	189	3	11	0	203	0.43%
Adult read test to student	2,080	97	149	0	2,326	4.90%
Used dictionary, glossary, or word book	90	7	20	0	117	0.25%
Unique modifications	125	0	8	0	133	0.28%
<i>Any accommodation or modification</i>	11,687	382	773	0	12,842	27.07%
<i>No accommodations or modifications</i>	33,476	407	707	0	34,590	72.93%

Table 5.B.6: Accommodation Summary for English-language Arts Grade 7

All Tested	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	25	0	0	0	25	0.01%
Large print	160	3	1	0	164	0.03%
IEP accommodations	10,716	238	218	0	11,172	2.26%
504 Plan accommodations	184	1	0	0	185	0.04%
EL accommodations	3,109	2	1	0	3,112	0.63%
Adult read test to student	2,188	39	101	0	2,328	0.47%
Used dictionary, glossary, or word book	157	9	11	0	177	0.04%
Unique modifications	154	2	8	0	164	0.03%
Writing: Braille	48	0	0	0	48	0.01%
Writing: Large print	121	0	2	0	123	0.02%
Writing: IEP accommodations	8,941	144	73	0	9,158	1.86%
Writing: 504 Plan accommodations	209	0	1	0	210	0.04%
Writing: EL accommodations	3,262	0	0	0	3,262	0.66%
Writing: Adult read test to student	3,634	66	49	0	3,749	0.76%
Writing: Used dictionary, glossary, or word book	572	27	31	0	630	0.13%
Writing: Dictated response to scribe	209	8	4	0	221	0.04%
Writing: Used word processing software	130	4	1	0	135	0.03%
Writing: Unique modifications	219	7	13	0	239	0.05%
<i>Any accommodation or modification</i>	21,227	319	281	0	21,827	4.43%
<i>No accommodations or modifications</i>	470,972	245	212	0	471,429	95.57%
English Learners	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	8	0	0	0	8	0.00%
Large print	49	2	0	0	51	0.02%
IEP accommodations	3,903	75	65	0	4,043	1.95%
504 Plan accommodations	31	0	0	0	31	0.01%
EL accommodations	3,004	2	1	0	3,007	1.45%
Adult read test to student	935	13	24	0	972	0.47%
Used dictionary, glossary, or word book	55	3	5	0	63	0.03%
Unique modifications	48	1	2	0	51	0.02%
Writing: Braille	17	0	0	0	17	0.01%
Writing: Large print	41	0	1	0	42	0.02%
Writing: IEP accommodations	3,471	55	15	0	3,541	1.71%
Writing: 504 Plan accommodations	39	0	0	0	39	0.02%
Writing: EL accommodations	3,140	0	0	0	3,140	1.52%
Writing: Adult read test to student	1,567	28	12	0	1,607	0.78%
Writing: Used dictionary, glossary, or word book	237	14	7	0	258	0.12%
Writing: Dictated response to scribe	77	0	1	0	78	0.04%
Writing: Used word processing software	20	1	0	0	21	0.01%
Writing: Unique modifications	68	2	4	0	74	0.04%
<i>Any accommodation or modification</i>	10,758	112	75	0	10,945	5.28%
<i>No accommodations or modifications</i>	196,002	114	69	0	196,185	94.72%
Special Education Students	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	23	0	0	0	23	0.05%
Large print	126	3	1	0	130	0.28%
IEP accommodations	9,942	235	211	0	10,388	22.02%
504 Plan accommodations	60	0	0	0	60	0.13%
EL accommodations	144	2	1	0	147	0.31%
Adult read test to student	2,033	39	81	0	2,153	4.56%
Used dictionary, glossary, or word book	132	9	11	0	152	0.32%
Unique modifications	127	2	8	0	137	0.29%
Writing: Braille	16	0	0	0	16	0.03%
Writing: Large print	79	0	2	0	81	0.17%
Writing: IEP accommodations	8,293	143	69	0	8,505	18.03%
Writing: 504 Plan accommodations	25	0	0	0	25	0.05%
Writing: EL accommodations	163	0	0	0	163	0.35%
Writing: Adult read test to student	3,318	65	35	0	3,418	7.24%
Writing: Used dictionary, glossary, or word book	499	27	26	0	552	1.17%
Writing: Dictated response to scribe	168	8	3	0	179	0.38%
Writing: Used word processing software	88	4	0	0	92	0.19%
Writing: Unique modifications	181	7	13	0	201	0.43%
<i>Any accommodation or modification</i>	15,125	315	257	0	15,697	33.27%
<i>No accommodations or modifications</i>	31,069	207	209	0	31,485	66.73%

Table 5.B.7: Accommodation Summary for English-language Arts Grade 8

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	25	0	2	0	27	0.01%
Large print	159	0	0	0	159	0.03%
IEP accommodations	10,661	81	233	0	10,975	2.23%
504 Plan accommodations	200	0	1	0	201	0.04%
EL accommodations	2,657	0	0	0	2,657	0.54%
Adult read test to student	1,971	27	128	0	2,126	0.43%
Used dictionary, glossary, or word book	186	12	8	0	206	0.04%
Unique modifications	139	0	1	0	140	0.03%
<i>Any accommodation or modification</i>	14,037	96	279	0	14,412	2.92%
<i>No accommodations or modifications</i>	478,053	163	190	0	478,406	97.08%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	5	0	0	0	5	0.00%
Large print	49	0	0	0	49	0.02%
IEP accommodations	3,838	24	71	0	3,933	1.97%
504 Plan accommodations	27	0	1	0	28	0.01%
EL accommodations	2,578	0	0	0	2,578	1.29%
Adult read test to student	760	9	37	0	806	0.40%
Used dictionary, glossary, or word book	81	4	4	0	89	0.04%
Unique modifications	20	0	0	0	20	0.01%
<i>Any accommodation or modification</i>	6,587	28	90	0	6,705	3.35%
<i>No accommodations or modifications</i>	193,067	39	74	0	193,180	96.65%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	22	0	2	0	24	0.05%
Large print	121	0	0	0	121	0.25%
IEP accommodations	9,984	80	225	0	10,289	21.57%
504 Plan accommodations	24	0	1	0	25	0.05%
EL accommodations	103	0	0	0	103	0.22%
Adult read test to student	1,849	27	123	0	1,999	4.19%
Used dictionary, glossary, or word book	144	11	8	0	163	0.34%
Unique modifications	126	0	1	0	127	0.27%
<i>Any accommodation or modification</i>	10,551	94	267	0	10,912	22.88%
<i>No accommodations or modifications</i>	36,451	147	187	0	36,785	77.12%

Table 5.B.8: Accommodation Summary for English-language Arts Grade 9

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	53	1	0	54	0.01%
Large print	0	131	1	1	133	0.03%
IEP accommodations	0	8,183	62	189	8,434	1.71%
504 Plan accommodations	0	129	0	0	129	0.03%
EL accommodations	0	2,512	0	0	2,512	0.51%
Adult read test to student	0	1,490	32	102	1,624	0.33%
Used dictionary, glossary, or word book	0	375	6	35	416	0.08%
Unique modifications	0	82	2	6	90	0.02%
<i>Any accommodation or modification</i>	0	11,366	65	226	11,657	2.36%
<i>No accommodations or modifications</i>	0	482,597	187	129	482,913	97.64%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	15	1	0	16	0.01%
Large print	0	40	0	0	40	0.02%
IEP accommodations	0	2,697	14	62	2,773	1.43%
504 Plan accommodations	0	39	0	0	39	0.02%
EL accommodations	0	2,342	0	0	2,342	1.21%
Adult read test to student	0	596	4	26	626	0.32%
Used dictionary, glossary, or word book	0	189	2	10	201	0.10%
Unique modifications	0	34	1	1	36	0.02%
<i>Any accommodation or modification</i>	0	5,252	14	75	5,341	2.75%
<i>No accommodations or modifications</i>	0	188,461	38	37	188,536	97.25%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	38	0	0	38	0.08%
Large print	0	105	1	1	107	0.23%
IEP accommodations	0	7,580	61	187	7,828	17.01%
504 Plan accommodations	0	35	0	0	35	0.08%
EL accommodations	0	59	0	0	59	0.13%
Adult read test to student	0	1,404	31	98	1,533	3.33%
Used dictionary, glossary, or word book	0	303	6	34	343	0.75%
Unique modifications	0	72	1	6	79	0.17%
<i>Any accommodation or modification</i>	0	8,159	64	222	8,445	18.35%
<i>No accommodations or modifications</i>	0	37,345	117	117	37,579	81.65%

Table 5.B.9: Accommodation Summary for English-language Arts Grade 10

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	37	2	39	0.01%
Large print	0	0	111	2	113	0.03%
IEP accommodations	0	0	6,941	59	7,000	1.55%
504 Plan accommodations	0	0	113	0	113	0.03%
EL accommodations	0	0	1,430	0	1,430	0.32%
Adult read test to student	0	0	1,109	25	1,134	0.25%
Used dictionary, glossary, or word book	0	0	308	3	311	0.07%
Unique modifications	0	0	75	1	76	0.02%
<i>Any accommodation or modification</i>	0	0	8,913	61	8,974	1.99%
<i>No accommodations or modifications</i>	0	0	442,639	165	442,804	98.01%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	11	1	12	0.01%
Large print	0	0	36	0	36	0.02%
IEP accommodations	0	0	2,189	6	2,195	1.27%
504 Plan accommodations	0	0	16	0	16	0.01%
EL accommodations	0	0	1,378	0	1,378	0.80%
Adult read test to student	0	0	449	2	451	0.26%
Used dictionary, glossary, or word book	0	0	138	0	138	0.08%
Unique modifications	0	0	24	0	24	0.01%
<i>Any accommodation or modification</i>	0	0	3,750	6	3,756	2.18%
<i>No accommodations or modifications</i>	0	0	168,510	32	168,542	97.82%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	24	1	25	0.06%
Large print	0	0	95	1	96	0.23%
IEP accommodations	0	0	6,555	59	6,614	16.19%
504 Plan accommodations	0	0	10	0	10	0.02%
EL accommodations	0	0	31	0	31	0.08%
Adult read test to student	0	0	1,068	25	1,093	2.68%
Used dictionary, glossary, or word book	0	0	269	3	272	0.67%
Unique modifications	0	0	69	1	70	0.17%
<i>Any accommodation or modification</i>	0	0	6,966	60	7,026	17.20%
<i>No accommodations or modifications</i>	0	0	33,747	85	33,832	82.80%

Table 5.B.10: Accommodation Summary for English-language Arts Grade 11

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	43	43	0.01%
Large print	0	0	0	100	100	0.03%
IEP accommodations	0	0	0	5,117	5,117	1.31%
504 Plan accommodations	0	0	0	97	97	0.02%
EL accommodations	0	0	0	715	715	0.18%
Adult read test to student	0	0	0	962	962	0.25%
Used dictionary, glossary, or word book	0	0	0	212	212	0.05%
Unique modifications	0	0	0	47	47	0.01%
<i>Any accommodation or modification</i>	0	0	0	6,346	6,346	1.63%
<i>No accommodations or modifications</i>	0	0	0	383,401	383,401	98.37%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	16	16	0.01%
Large print	0	0	0	32	32	0.02%
IEP accommodations	0	0	0	1,598	1,598	1.10%
504 Plan accommodations	0	0	0	28	28	0.02%
EL accommodations	0	0	0	685	685	0.47%
Adult read test to student	0	0	0	389	389	0.27%
Used dictionary, glossary, or word book	0	0	0	107	107	0.07%
Unique modifications	0	0	0	16	16	0.01%
<i>Any accommodation or modification</i>	0	0	0	2,502	2,502	1.73%
<i>No accommodations or modifications</i>	0	0	0	142,156	142,156	98.27%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	29	29	0.09%
Large print	0	0	0	85	85	0.26%
IEP accommodations	0	0	0	4,856	4,856	14.66%
504 Plan accommodations	0	0	0	31	31	0.09%
EL accommodations	0	0	0	15	15	0.05%
Adult read test to student	0	0	0	933	933	2.82%
Used dictionary, glossary, or word book	0	0	0	195	195	0.59%
Unique modifications	0	0	0	40	40	0.12%
<i>Any accommodation or modification</i>	0	0	0	5,278	5,278	15.94%
<i>No accommodations or modifications</i>	0	0	0	27,844	27,844	84.06%

Table 5.B.11: Accommodation Summary for History Social Science Grade 8

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	24	0	2	0	26	0.01%
Large print	158	0	0	0	158	0.03%
IEP accommodations	10,551	63	202	0	10,816	2.21%
504 Plan accommodations	170	0	0	0	170	0.03%
EL accommodations	2,570	0	0	0	2,570	0.52%
Unique modifications	140	0	2	0	142	0.03%
<i>Any accommodation or modification</i>	13,362	63	203	0	13,628	2.78%
<i>No accommodations or modifications</i>	475,697	162	240	0	476,099	97.22%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	5	0	0	0	5	0.00%
Large print	50	0	0	0	50	0.03%
IEP accommodations	3,798	16	60	0	3,874	1.95%
504 Plan accommodations	23	0	0	0	23	0.01%
EL accommodations	2,499	0	0	0	2,499	1.26%
Unique modifications	23	0	0	0	23	0.01%
<i>Any accommodation or modification</i>	6,304	16	60	0	6,380	3.21%
<i>No accommodations or modifications</i>	192,290	36	99	0	192,425	96.79%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	21	0	2	0	23	0.05%
Large print	120	0	0	0	120	0.26%
IEP accommodations	9,910	62	196	0	10,168	21.64%
504 Plan accommodations	25	0	0	0	25	0.05%
EL accommodations	93	0	0	0	93	0.20%
Unique modifications	127	0	2	0	129	0.27%
<i>Any accommodation or modification</i>	10,070	62	197	0	10,329	21.98%
<i>No accommodations or modifications</i>	36,275	147	233	0	36,655	78.02%

Table 5.B.12: Accommodation Summary for History-Social Science Grade 10

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	36	2	38	0.01%
Large print	0	0	108	2	110	0.02%
IEP accommodations	0	0	6,631	55	6,686	1.51%
504 Plan accommodations	0	0	104	0	104	0.02%
EL accommodations	0	0	1,151	1	1,152	0.26%
Unique modifications	0	0	80	1	81	0.02%
<i>Any accommodation or modification</i>	0	0	7,965	58	8,023	1.81%
<i>No accommodations or modifications</i>	0	0	434,613	150	434,763	98.19%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	11	1	12	0.01%
Large print	0	0	35	0	35	0.02%
IEP accommodations	0	0	2,080	4	2,084	1.24%
504 Plan accommodations	0	0	14	0	14	0.01%
EL accommodations	0	0	1,109	0	1,109	0.66%
Unique modifications	0	0	26	0	26	0.02%
<i>Any accommodation or modification</i>	0	0	3,227	5	3,232	1.92%
<i>No accommodations or modifications</i>	0	0	165,355	30	165,385	98.08%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	23	1	24	0.06%
Large print	0	0	92	1	93	0.24%
IEP accommodations	0	0	6,273	55	6,328	16.06%
504 Plan accommodations	0	0	17	0	17	0.04%
EL accommodations	0	0	29	1	30	0.08%
Unique modifications	0	0	77	1	78	0.20%
<i>Any accommodation or modification</i>	0	0	6,382	57	6,439	16.35%
<i>No accommodations or modifications</i>	0	0	32,870	82	32,952	83.65%

Table 5.B.13: Accommodation Summary for History-Social Science Grade 11

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	41	41	0.01%
Large print	0	0	0	99	99	0.03%
IEP accommodations	0	0	0	4,922	4,922	1.29%
504 Plan accommodations	0	0	0	90	90	0.02%
EL accommodations	0	0	0	585	585	0.15%
Unique modifications	0	0	0	49	49	0.01%
<i>Any accommodation or modification</i>	0	0	0	5,648	5,648	1.48%
<i>No accommodations or modifications</i>	0	0	0	375,369	375,369	98.52%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	16	16	0.01%
Large print	0	0	0	30	30	0.02%
IEP accommodations	0	0	0	1,521	1,521	1.08%
504 Plan accommodations	0	0	0	28	28	0.02%
EL accommodations	0	0	0	562	562	0.40%
Unique modifications	0	0	0	20	20	0.01%
<i>Any accommodation or modification</i>	0	0	0	2,123	2,123	1.50%
<i>No accommodations or modifications</i>	0	0	0	139,343	139,343	98.50%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	27	27	0.09%
Large print	0	0	0	84	84	0.26%
IEP accommodations	0	0	0	4,667	4,667	14.70%
504 Plan accommodations	0	0	0	35	35	0.11%
EL accommodations	0	0	0	14	14	0.04%
Unique modifications	0	0	0	43	43	0.14%
<i>Any accommodation or modification</i>	0	0	0	4,753	4,753	14.97%
<i>No accommodations or modifications</i>	0	0	0	27,006	27,006	85.03%

Table 5.B.14: Accommodation Summary for Mathematics Grade 2

All Tested	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	35	0	0	0	35	0.01%
Large print	176	0	0	0	176	0.04%
IEP accommodations	10,501	0	0	0	10,501	2.20%
504 Plan accommodations	252	0	0	0	252	0.05%
EL accommodations	6,109	0	0	0	6,109	1.28%
Used calculator or arithmetic tables	187	0	0	0	187	0.04%
Unique modifications	279	0	0	0	279	0.06%
<i>Any accommodation or modification</i>	16,931	0	0	0	16,931	3.54%
<i>No accommodations or modifications</i>	460,744	0	0	0	460,744	96.46%
English Learners	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	12	0	0	0	12	0.01%
Large print	65	0	0	0	65	0.03%
IEP accommodations	3,907	0	0	0	3,907	1.82%
504 Plan accommodations	88	0	0	0	88	0.04%
EL accommodations	5,996	0	0	0	5,996	2.79%
Used calculator or arithmetic tables	63	0	0	0	63	0.03%
Unique modifications	125	0	0	0	125	0.06%
<i>Any accommodation or modification</i>	9,956	0	0	0	9,956	4.64%
<i>No accommodations or modifications</i>	204,743	0	0	0	204,743	95.36%
Special Education Students	Grade 2	Grade 3	Grade 4	Grade 5	Total	Pct. of Total
Braille	18	0	0	0	18	0.05%
Large print	120	0	0	0	120	0.31%
IEP accommodations	8,809	0	0	0	8,809	22.81%
504 Plan accommodations	25	0	0	0	25	0.06%
EL accommodations	302	0	0	0	302	0.78%
Used calculator or arithmetic tables	147	0	0	0	147	0.38%
Unique modifications	242	0	0	0	242	0.63%
<i>Any accommodation or modification</i>	9,167	0	0	0	9,167	23.73%
<i>No accommodations or modifications</i>	29,457	0	0	0	29,457	76.27%

Table 5.B.15: Accommodation Summary for Mathematics Grade 3

All Tested	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	31	0	0	0	31	0.01%
Large print	232	0	5	0	237	0.05%
IEP accommodations	14,417	0	1,191	0	15,608	3.20%
504 Plan accommodations	335	0	10	0	345	0.07%
EL accommodations	4,025	0	29	0	4,054	0.83%
Used calculator or arithmetic tables	480	0	115	0	595	0.12%
Unique modifications	300	0	57	0	357	0.07%
<i>Any accommodation or modification</i>	18,806	0	1,227	0	20,033	4.11%
<i>No accommodations or modifications</i>	467,172	0	410	0	467,582	95.89%
English Learners	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	14	0	0	0	14	0.01%
Large print	70	0	1	0	71	0.03%
IEP accommodations	5,651	0	641	0	6,292	2.89%
504 Plan accommodations	82	0	6	0	88	0.04%
EL accommodations	3,925	0	23	0	3,948	1.81%
Used calculator or arithmetic tables	192	0	52	0	244	0.11%
Unique modifications	121	0	16	0	137	0.06%
<i>Any accommodation or modification</i>	9,610	0	652	0	10,262	4.71%
<i>No accommodations or modifications</i>	207,599	0	210	0	207,809	95.29%
Special Education Students	Grade 3	Grade 4	Grade 5	Grade 6	Total	Pct. of Total
Braille	21	0	0	0	21	0.04%
Large print	182	0	5	0	187	0.40%
IEP accommodations	12,457	0	1,145	0	13,602	28.85%
504 Plan accommodations	66	0	7	0	73	0.15%
EL accommodations	291	0	29	0	320	0.68%
Used calculator or arithmetic tables	425	0	113	0	538	1.14%
Unique modifications	265	0	57	0	322	0.68%
<i>Any accommodation or modification</i>	12,822	0	1,178	0	14,000	29.69%
<i>No accommodations or modifications</i>	32,777	0	375	0	33,152	70.31%

Table 5.B.16: Accommodation Summary for Mathematics Grade 4

All Tested	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	41	1	2	0	44	0.01%
Large print	224	9	6	0	239	0.05%
IEP accommodations	16,989	953	930	0	18,872	3.83%
504 Plan accommodations	397	2	5	0	404	0.08%
EL accommodations	3,825	15	2	0	3,842	0.78%
Used calculator or arithmetic tables	906	85	86	0	1,077	0.22%
Unique modifications	328	21	31	0	380	0.08%
<i>Any accommodation or modification</i>	21,260	975	956	0	23,191	4.70%
<i>No accommodations or modifications</i>	468,927	431	501	0	469,859	95.30%
English Learners	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	16	1	1	0	18	0.01%
Large print	73	2	2	0	77	0.03%
IEP accommodations	6,597	451	454	0	7,502	3.40%
504 Plan accommodations	78	1	3	0	82	0.04%
EL accommodations	3,723	15	1	0	3,739	1.69%
Used calculator or arithmetic tables	364	41	22	0	427	0.19%
Unique modifications	145	6	11	0	162	0.07%
<i>Any accommodation or modification</i>	10,310	466	465	0	11,241	5.09%
<i>No accommodations or modifications</i>	209,012	204	268	0	209,484	94.91%
Special Education Students	Grade 4	Grade 5	Grade 6	Grade 7	Total	Pct. of Total
Braille	35	1	2	0	38	0.07%
Large print	184	8	6	0	198	0.38%
IEP accommodations	15,050	921	900	0	16,871	32.45%
504 Plan accommodations	71	1	3	0	75	0.14%
EL accommodations	254	14	2	0	270	0.52%
Used calculator or arithmetic tables	825	82	82	0	989	1.90%
Unique modifications	289	20	31	0	340	0.65%
<i>Any accommodation or modification</i>	15,427	942	924	0	17,293	33.26%
<i>No accommodations or modifications</i>	33,803	407	483	0	34,693	66.74%

Table 5.B.17: Accommodation Summary for Mathematics Grade 5

All Tested	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	29	1	1	0	31	0.01%
Large print	217	3	4	0	224	0.05%
IEP accommodations	15,657	572	833	0	17,062	3.49%
504 Plan accommodations	388	4	4	0	396	0.08%
EL accommodations	2,373	2	30	0	2,405	0.49%
Used calculator or arithmetic tables	989	68	171	0	1,228	0.25%
Unique modifications	231	10	19	0	260	0.05%
<i>Any accommodation or modification</i>	18,573	589	874	0	20,036	4.09%
<i>No accommodations or modifications</i>	468,339	380	696	0	469,415	95.91%
English Learners	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	14	0	0	0	14	0.01%
Large print	61	0	0	0	61	0.03%
IEP accommodations	6,096	215	421	0	6,732	3.10%
504 Plan accommodations	79	3	0	0	82	0.04%
EL accommodations	2,290	2	28	0	2,320	1.07%
Used calculator or arithmetic tables	398	28	62	0	488	0.22%
Unique modifications	81	9	11	0	101	0.05%
<i>Any accommodation or modification</i>	8,462	222	437	0	9,121	4.20%
<i>No accommodations or modifications</i>	207,372	128	371	0	207,871	95.80%
Special Education Students	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	25	1	1	0	27	0.06%
Large print	164	3	4	0	171	0.35%
IEP accommodations	14,124	525	821	0	15,470	31.72%
504 Plan accommodations	59	1	3	0	63	0.13%
EL accommodations	188	1	29	0	218	0.45%
Used calculator or arithmetic tables	902	68	166	0	1,136	2.33%
Unique modifications	211	9	19	0	239	0.49%
<i>Any accommodation or modification</i>	14,487	538	859	0	15,884	32.57%
<i>No accommodations or modifications</i>	31,856	366	661	0	32,883	67.43%

Table 5.B.18: Accommodation Summary for Mathematics Grade 6

All Tested	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	36	1	2	0	39	0.01%
Large print	184	4	5	0	193	0.04%
IEP accommodations	12,745	358	810	0	13,913	2.86%
504 Plan accommodations	239	6	3	0	248	0.05%
EL accommodations	2,871	3	12	0	2,886	0.59%
Used calculator or arithmetic tables	1,303	38	180	0	1,521	0.31%
Unique modifications	142	0	9	0	151	0.03%
<i>Any accommodation or modification</i>	16,087	369	847	0	17,303	3.56%
<i>No accommodations or modifications</i>	467,528	456	674	0	468,658	96.44%
English Learners	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	15	0	0	0	15	0.01%
Large print	51	0	4	0	55	0.03%
IEP accommodations	4,714	136	416	0	5,266	2.51%
504 Plan accommodations	25	2	0	0	27	0.01%
EL accommodations	2,731	2	6	0	2,739	1.31%
Used calculator or arithmetic tables	448	20	68	0	536	0.26%
Unique modifications	26	0	1	0	27	0.01%
<i>Any accommodation or modification</i>	7,487	138	431	0	8,056	3.85%
<i>No accommodations or modifications</i>	200,886	186	331	0	201,403	96.15%
Special Education Students	Grade 6	Grade 7	Grade 8	Grade 9	Total	Pct. of Total
Braille	27	1	2	0	30	0.06%
Large print	145	4	5	0	154	0.33%
IEP accommodations	11,532	343	790	0	12,665	26.77%
504 Plan accommodations	33	2	0	0	35	0.07%
EL accommodations	176	3	12	0	191	0.40%
Used calculator or arithmetic tables	1,212	38	177	0	1,427	3.02%
Unique modifications	130	0	9	0	139	0.29%
<i>Any accommodation or modification</i>	11,934	350	823	0	13,107	27.70%
<i>No accommodations or modifications</i>	33,126	436	649	0	34,211	72.30%

Table 5.B.19: Accommodation Summary for Mathematics Grade 7

All Tested	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	23	0	0	0	23	0.00%
Large print	162	3	1	0	166	0.03%
IEP accommodations	11,174	226	249	0	11,649	2.36%
504 Plan accommodations	182	1	2	0	185	0.04%
EL accommodations	3,078	1	0	0	3,079	0.63%
Used calculator or arithmetic tables	1,566	54	206	0	1,826	0.37%
Unique modifications	165	2	8	0	175	0.04%
<i>Any accommodation or modification</i>	14,811	248	304	0	15,363	3.12%
<i>No accommodations or modifications</i>	476,756	307	175	0	477,238	96.88%
English Learners	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	8	0	0	0	8	0.00%
Large print	49	2	0	0	51	0.02%
IEP accommodations	4,080	74	69	0	4,223	2.04%
504 Plan accommodations	31	0	0	0	31	0.01%
EL accommodations	2,973	1	0	0	2,974	1.44%
Used calculator or arithmetic tables	535	23	57	0	615	0.30%
Unique modifications	49	1	1	0	51	0.02%
<i>Any accommodation or modification</i>	7,166	82	84	0	7,332	3.54%
<i>No accommodations or modifications</i>	199,425	142	57	0	199,624	96.46%
Special Education Students	Grade 7	Grade 8	Grade 9	Grade 10	Total	Pct. of Total
Braille	21	0	0	0	21	0.04%
Large print	128	3	1	0	132	0.28%
IEP accommodations	10,383	223	242	0	10,848	23.08%
504 Plan accommodations	57	0	1	0	58	0.12%
EL accommodations	146	1	0	0	147	0.31%
Used calculator or arithmetic tables	1,464	53	190	0	1,707	3.63%
Unique modifications	140	2	8	0	150	0.32%
<i>Any accommodation or modification</i>	10,909	244	280	0	11,433	24.32%
<i>No accommodations or modifications</i>	35,131	270	172	0	35,573	75.68%

Table 5.B.20: Accommodation Summary for General Mathematics

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	10	19	1	0	30	0.01%
Large print	108	54	1	0	163	0.04%
IEP accommodations	9,138	5,421	192	133	14,884	3.56%
504 Plan accommodations	135	46	0	0	181	0.04%
EL accommodations	1,831	1,125	1	0	2,957	0.71%
Used calculator or arithmetic tables	1,550	2,288	157	130	4,125	0.99%
Unique modifications	133	39	1	3	176	0.04%
<i>Any accommodation or modification</i>	11,459	7,386	243	178	19,266	4.61%
<i>No accommodations or modifications</i>	263,359	134,692	134	63	398,248	95.39%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	1	6	0	0	7	0.00%
Large print	29	14	0	0	43	0.03%
IEP accommodations	3,256	1,736	44	36	5,072	2.96%
504 Plan accommodations	17	7	0	0	24	0.01%
EL accommodations	1,771	1,031	0	0	2,802	1.64%
Used calculator or arithmetic tables	491	745	40	33	1,309	0.76%
Unique modifications	24	14	0	0	38	0.02%
<i>Any accommodation or modification</i>	5,099	3,003	64	50	8,216	4.80%
<i>No accommodations or modifications</i>	107,924	54,963	45	17	162,949	95.20%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	10	16	1	0	27	0.04%
Large print	86	40	1	0	127	0.20%
IEP accommodations	8,584	5,025	188	131	13,928	22.31%
504 Plan accommodations	24	9	0	0	33	0.05%
EL accommodations	84	17	1	0	102	0.16%
Used calculator or arithmetic tables	1,461	2,137	153	126	3,877	6.21%
Unique modifications	124	36	0	3	163	0.26%
<i>Any accommodation or modification</i>	9,008	5,794	234	174	15,210	24.36%
<i>No accommodations or modifications</i>	27,572	19,476	118	54	47,220	75.64%

Table 5.B.21: Accommodation Summary for Algebra I

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	8	20	11	6	45	0.01%
Large print	37	47	31	17	132	0.02%
IEP accommodations	1,124	2,216	2,818	1,877	8,035	1.31%
504 Plan accommodations	42	59	28	29	158	0.03%
EL accommodations	794	831	511	253	2,389	0.39%
Used calculator or arithmetic tables	179	1,029	1,243	888	3,339	0.54%
Unique modifications	12	36	23	11	82	0.01%
<i>Any accommodation or modification</i>	2,046	3,435	3,777	2,471	11,729	1.91%
<i>No accommodations or modifications</i>	187,605	218,661	131,780	63,723	601,769	98.09%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	3	6	4	1	14	0.01%
Large print	15	18	10	5	48	0.02%
IEP accommodations	505	781	932	609	2,827	1.12%
504 Plan accommodations	4	22	5	13	44	0.02%
EL accommodations	781	771	491	247	2,290	0.91%
Used calculator or arithmetic tables	74	429	426	311	1,240	0.49%
Unique modifications	2	14	10	7	33	0.01%
<i>Any accommodation or modification</i>	1,322	1,689	1,570	982	5,563	2.20%
<i>No accommodations or modifications</i>	75,159	89,474	55,515	27,186	247,334	97.80%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	8	13	9	3	33	0.07%
Large print	24	43	24	12	103	0.22%
IEP accommodations	1,065	2,089	2,657	1,808	7,619	16.21%
504 Plan accommodations	4	26	6	14	50	0.11%
EL accommodations	12	41	7	5	65	0.14%
Used calculator or arithmetic tables	172	985	1,176	861	3,194	6.80%
Unique modifications	11	32	23	9	75	0.16%
<i>Any accommodation or modification</i>	1,156	2,463	3,063	2,123	8,805	18.74%
<i>No accommodations or modifications</i>	5,651	11,781	12,662	8,096	38,190	81.26%

Table 5.B.22: Accommodation Summary for Geometry

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	4	4	7	15	0.00%
Large print	3	18	27	17	65	0.02%
IEP accommodations	9	114	634	666	1,423	0.47%
504 Plan accommodations	1	13	27	20	61	0.02%
EL accommodations	5	21	144	83	253	0.08%
Used calculator or arithmetic tables	1	39	403	382	825	0.27%
Unique modifications	1	2	5	10	18	0.01%
<i>Any accommodation or modification</i>	17	170	958	914	2,059	0.68%
<i>No accommodations or modifications</i>	12,461	89,622	126,498	70,294	298,875	99.32%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	2	2	4	0.00%
Large print	3	4	9	7	23	0.02%
IEP accommodations	5	36	206	229	476	0.43%
504 Plan accommodations	1	1	3	5	10	0.01%
EL accommodations	4	21	141	81	247	0.22%
Used calculator or arithmetic tables	0	15	139	137	291	0.26%
Unique modifications	1	0	1	4	6	0.01%
<i>Any accommodation or modification</i>	12	66	398	367	843	0.76%
<i>No accommodations or modifications</i>	4,578	29,533	46,729	28,874	109,714	99.24%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	2	3	3	8	0.08%
Large print	1	13	24	14	52	0.51%
IEP accommodations	8	100	607	637	1,352	13.27%
504 Plan accommodations	0	0	1	7	8	0.08%
EL accommodations	0	1	4	2	7	0.07%
Used calculator or arithmetic tables	1	37	387	370	795	7.80%
Unique modifications	0	2	5	10	17	0.17%
<i>Any accommodation or modification</i>	9	119	760	784	1,672	16.41%
<i>No accommodations or modifications</i>	128	907	3,527	3,956	8,518	83.59%

Table 5.B.23: Accommodation Summary for Algebra II

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	1	0	1	9	11	0.01%
Large print	0	1	6	13	20	0.01%
IEP accommodations	5	23	79	189	296	0.16%
504 Plan accommodations	0	2	9	15	26	0.01%
EL accommodations	0	10	49	72	131	0.07%
Used calculator or arithmetic tables	1	2	34	96	133	0.07%
Unique modifications	0	0	2	0	2	0.00%
<i>Any accommodation or modification</i>	6	37	153	322	518	0.28%
<i>No accommodations or modifications</i>	498	13,213	78,695	88,963	181,369	99.72%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	1	0	0	6	7	0.01%
Large print	0	1	1	6	8	0.01%
IEP accommodations	0	8	16	47	71	0.11%
504 Plan accommodations	0	0	1	3	4	0.01%
EL accommodations	0	9	48	68	125	0.20%
Used calculator or arithmetic tables	0	0	5	22	27	0.04%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	1	18	69	130	218	0.34%
<i>No accommodations or modifications</i>	185	5,199	26,069	31,800	63,253	99.66%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	7	7	0.26%
Large print	0	1	6	10	17	0.62%
IEP accommodations	5	21	72	180	278	10.18%
504 Plan accommodations	0	0	3	2	5	0.18%
EL accommodations	0	0	0	0	0	0.00%
Used calculator or arithmetic tables	1	2	31	87	121	4.43%
Unique modifications	0	0	2	0	2	0.07%
<i>Any accommodation or modification</i>	5	23	89	220	337	12.34%
<i>No accommodations or modifications</i>	12	122	740	1,521	2,395	87.66%

Table 5.B.24: Accommodation Summary for High School Mathematics

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	2	3	5	0.01%
Large print	0	0	2	9	11	0.01%
IEP accommodations	0	15	22	46	83	0.10%
504 Plan accommodations	0	0	1	10	11	0.01%
EL accommodations	0	1	7	15	23	0.03%
Used calculator or arithmetic tables	0	11	10	17	38	0.05%
Unique modifications	0	0	0	2	2	0.00%
<i>Any accommodation or modification</i>	0	17	38	84	139	0.17%
<i>No accommodations or modifications</i>	0	595	10,788	68,986	80,369	99.83%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	0	1	0.00%
Large print	0	0	0	2	2	0.01%
IEP accommodations	0	6	7	16	29	0.10%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	1	6	14	21	0.07%
Used calculator or arithmetic tables	0	3	1	8	12	0.04%
Unique modifications	0	0	0	1	1	0.00%
<i>Any accommodation or modification</i>	0	8	13	36	57	0.20%
<i>No accommodations or modifications</i>	0	286	4,380	23,595	28,261	99.80%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	2	1	3	0.42%
Large print	0	0	2	7	9	1.26%
IEP accommodations	0	15	18	41	74	10.39%
504 Plan accommodations	0	0	0	3	3	0.42%
EL accommodations	0	0	0	0	0	0.00%
Used calculator or arithmetic tables	0	11	8	16	35	4.92%
Unique modifications	0	0	0	2	2	0.28%
<i>Any accommodation or modification</i>	0	16	26	53	95	13.34%
<i>No accommodations or modifications</i>	0	38	119	460	617	86.66%

Table 5.B.25: Accommodation Summary for Integrated Mathematics I

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	3	4	0.04%
IEP accommodations	2	39	81	99	221	2.30%
504 Plan accommodations	0	1	5	0	6	0.06%
EL accommodations	0	168	71	23	262	2.73%
Used calculator or arithmetic tables	0	10	23	64	97	1.01%
Unique modifications	0	0	1	4	5	0.05%
<i>Any accommodation or modification</i>	2	211	162	136	511	5.32%
<i>No accommodations or modifications</i>	372	3,625	2,428	2,678	9,103	94.68%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
IEP accommodations	1	6	23	36	66	1.71%
504 Plan accommodations	0	0	2	0	2	0.05%
EL accommodations	0	158	68	20	246	6.39%
Used calculator or arithmetic tables	0	0	6	28	34	0.88%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	1	164	93	62	320	8.31%
<i>No accommodations or modifications</i>	80	1,319	979	1,151	3,529	91.69%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	1	3	4	0.33%
IEP accommodations	2	35	77	98	212	17.64%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	2	0	2	0.17%
Used calculator or arithmetic tables	0	8	20	62	90	7.49%
Unique modifications	0	0	1	4	5	0.42%
<i>Any accommodation or modification</i>	2	37	83	111	233	19.38%
<i>No accommodations or modifications</i>	12	212	374	371	969	80.62%

Table 5.B.26: Accommodation Summary for Integrated Mathematics II

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	1	2	1	4	0.05%
Large print	0	0	1	1	2	0.03%
IEP accommodations	0	3	25	31	59	0.74%
504 Plan accommodations	0	0	5	1	6	0.08%
EL accommodations	0	43	51	7	101	1.27%
Used calculator or arithmetic tables	0	0	9	12	21	0.26%
Unique modifications	0	0	0	1	1	0.01%
<i>Any accommodation or modification</i>	0	46	84	42	172	2.17%
<i>No accommodations or modifications</i>	209	1,712	3,923	1,912	7,756	97.83%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	1	0	0	1	0.03%
Large print	0	0	0	0	0	0.00%
IEP accommodations	0	1	7	12	20	0.70%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	42	51	7	100	3.48%
Used calculator or arithmetic tables	0	0	4	3	7	0.24%
Unique modifications	0	0	0	1	1	0.03%
<i>Any accommodation or modification</i>	0	43	58	19	120	4.18%
<i>No accommodations or modifications</i>	79	552	1,401	719	2,751	95.82%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.35%
IEP accommodations	0	3	24	29	56	19.65%
504 Plan accommodations	0	0	1	0	1	0.35%
EL accommodations	0	0	0	0	0	0.00%
Used calculator or arithmetic tables	0	0	8	12	20	7.02%
Unique modifications	0	0	0	1	1	0.35%
<i>Any accommodation or modification</i>	0	3	26	31	60	21.05%
<i>No accommodations or modifications</i>	4	25	117	79	225	78.95%

Table 5.B.27: Accommodation Summary for Integrated Mathematics III

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	0.02%
IEP accommodations	0	3	3	10	16	0.36%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	1	1	1	3	0.07%
Used calculator or arithmetic tables	0	1	0	2	3	0.07%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	4	4	12	20	0.45%
<i>No accommodations or modifications</i>	14	174	1,434	2,788	4,410	99.55%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
IEP accommodations	0	2	1	3	6	0.41%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	1	1	1	3	0.20%
Used calculator or arithmetic tables	0	1	0	1	2	0.14%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	3	2	4	9	0.61%
<i>No accommodations or modifications</i>	6	42	429	983	1,460	99.39%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	1	1	1.23%
IEP accommodations	0	3	3	9	15	18.52%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	0	0	0	0.00%
Used calculator or arithmetic tables	0	1	0	2	3	3.70%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	3	3	10	16	19.75%
<i>No accommodations or modifications</i>	3	0	10	52	65	80.25%

Table 5.B.28: Accommodation Summary for Grade 5 Science

All Tested	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	29	1	1	0	31	0.01%
Large print	217	3	3	0	223	0.05%
IEP accommodations	14,934	510	650	0	16,094	3.30%
504 Plan accommodations	385	4	4	0	393	0.08%
EL accommodations	2,313	2	28	0	2,343	0.48%
Used calculator or arithmetic tables	407	21	57	0	485	0.10%
Unique modifications	204	9	16	0	229	0.05%
<i>Any accommodation or modification</i>	17,686	517	667	0	18,870	3.87%
<i>No accommodations or modifications</i>	468,120	341	523	0	468,984	96.13%
English Learners	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	14	0	0	0	14	0.01%
Large print	61	0	0	0	61	0.03%
IEP accommodations	5,849	193	343	0	6,385	2.95%
504 Plan accommodations	77	3	0	0	80	0.04%
EL accommodations	2,232	2	27	0	2,261	1.05%
Used calculator or arithmetic tables	163	12	18	0	193	0.09%
Unique modifications	72	8	10	0	90	0.04%
<i>Any accommodation or modification</i>	8,121	197	350	0	8,668	4.01%
<i>No accommodations or modifications</i>	207,291	111	243	0	207,645	95.99%
Special Education Students	Grade 5	Grade 6	Grade 7	Grade 8	Total	Pct. of Total
Braille	25	1	1	0	27	0.06%
Large print	164	3	3	0	170	0.35%
IEP accommodations	13,465	464	646	0	14,575	30.39%
504 Plan accommodations	64	1	3	0	68	0.14%
EL accommodations	186	1	28	0	215	0.45%
Used calculator or arithmetic tables	379	21	56	0	456	0.95%
Unique modifications	188	9	16	0	213	0.44%
<i>Any accommodation or modification</i>	13,733	468	662	0	14,863	30.99%
<i>No accommodations or modifications</i>	32,251	334	509	0	33,094	69.01%

Table 5.B.29: Accommodation Summary for Biology

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	9	15	5	29	0.01%
Large print	0	23	45	24	92	0.02%
IEP accommodations	0	826	2,149	833	3,808	0.96%
504 Plan accommodations	0	23	161	10	194	0.05%
EL accommodations	0	137	1,844	114	2,095	0.53%
Used calculator or arithmetic tables	0	58	152	45	255	0.06%
Unique modifications	0	13	11	5	29	0.01%
<i>Any accommodation or modification</i>	0	1,010	4,191	985	6,186	1.56%
<i>No accommodations or modifications</i>	0	121,968	199,106	70,477	391,551	98.44%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	3	4	4	11	0.01%
Large print	0	4	10	6	20	0.01%
IEP accommodations	0	249	656	248	1,153	0.76%
504 Plan accommodations	0	4	52	2	58	0.04%
EL accommodations	0	129	776	109	1,014	0.67%
Used calculator or arithmetic tables	0	18	43	10	71	0.05%
Unique modifications	0	6	4	3	13	0.01%
<i>Any accommodation or modification</i>	0	387	1,492	367	2,246	1.49%
<i>No accommodations or modifications</i>	0	45,610	75,042	27,882	148,534	98.51%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	7	10	4	21	0.09%
Large print	0	16	37	18	71	0.30%
IEP accommodations	0	732	1,904	791	3,427	14.24%
504 Plan accommodations	0	5	15	5	25	0.10%
EL accommodations	0	5	78	0	83	0.34%
Used calculator or arithmetic tables	0	53	140	44	237	0.98%
Unique modifications	0	12	11	3	26	0.11%
<i>Any accommodation or modification</i>	0	760	2,043	818	3,621	15.05%
<i>No accommodations or modifications</i>	0	4,565	11,506	4,370	20,441	84.95%

Table 5.B.30: Accommodation Summary for Chemistry

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	11	11	0.01%
Large print	0	0	6	14	20	0.01%
IEP accommodations	0	17	178	192	387	0.21%
504 Plan accommodations	0	1	39	13	53	0.03%
EL accommodations	0	0	638	13	651	0.36%
Used calculator or arithmetic tables	0	1	50	40	91	0.05%
Unique modifications	0	0	2	1	3	0.00%
<i>Any accommodation or modification</i>	0	18	869	242	1,129	0.62%
<i>No accommodations or modifications</i>	0	2,259	72,507	105,411	180,177	99.38%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	5	5	0.01%
Large print	0	0	2	5	7	0.01%
IEP accommodations	0	9	48	49	106	0.16%
504 Plan accommodations	0	0	13	2	15	0.02%
EL accommodations	0	0	196	13	209	0.31%
Used calculator or arithmetic tables	0	1	15	11	27	0.04%
Unique modifications	0	0	2	1	3	0.00%
<i>Any accommodation or modification</i>	0	9	259	71	339	0.51%
<i>No accommodations or modifications</i>	0	789	26,005	39,517	66,311	99.49%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	7	7	0.21%
Large print	0	0	6	11	17	0.50%
IEP accommodations	0	17	159	183	359	10.62%
504 Plan accommodations	0	1	4	2	7	0.21%
EL accommodations	0	0	7	0	7	0.21%
Used calculator or arithmetic tables	0	1	50	38	89	2.63%
Unique modifications	0	0	2	1	3	0.09%
<i>Any accommodation or modification</i>	0	18	187	201	406	12.00%
<i>No accommodations or modifications</i>	0	41	1,036	1,899	2,976	88.00%

Table 5.B.31: Accommodation Summary for Earth Science

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	15	2	1	18	0.01%
Large print	0	26	9	4	39	0.03%
IEP accommodations	0	1,649	669	456	2,774	2.06%
504 Plan accommodations	0	37	28	2	67	0.05%
EL accommodations	0	209	221	50	480	0.36%
Used calculator or arithmetic tables	0	131	57	33	221	0.16%
Unique modifications	0	16	5	5	26	0.02%
<i>Any accommodation or modification</i>	0	1,941	924	515	3,380	2.51%
<i>No accommodations or modifications</i>	0	90,552	21,205	19,793	131,550	97.49%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	2	0	0	2	0.00%
Large print	0	9	4	2	15	0.03%
IEP accommodations	0	452	214	149	815	1.64%
504 Plan accommodations	0	6	9	0	15	0.03%
EL accommodations	0	199	145	49	393	0.79%
Used calculator or arithmetic tables	0	43	23	8	74	0.15%
Unique modifications	0	4	3	2	9	0.02%
<i>Any accommodation or modification</i>	0	659	370	199	1,228	2.47%
<i>No accommodations or modifications</i>	0	32,416	8,326	7,709	48,451	97.53%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	11	2	0	13	0.09%
Large print	0	22	7	3	32	0.23%
IEP accommodations	0	1,494	617	425	2,536	17.86%
504 Plan accommodations	0	4	3	0	7	0.05%
EL accommodations	0	19	10	0	29	0.20%
Used calculator or arithmetic tables	0	108	56	33	197	1.39%
Unique modifications	0	11	5	5	21	0.15%
<i>Any accommodation or modification</i>	0	1,554	635	430	2,619	18.44%
<i>No accommodations or modifications</i>	0	6,745	2,690	2,148	11,583	81.56%

Table 5.B.32: Accommodation Summary for Physics

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	4	2	2	8	0.02%
Large print	0	0	1	3	4	0.01%
IEP accommodations	0	171	77	71	319	0.61%
504 Plan accommodations	0	4	7	7	18	0.03%
EL accommodations	0	39	72	8	119	0.23%
Used calculator or arithmetic tables	0	45	22	12	79	0.15%
Unique modifications	0	1	5	0	6	0.01%
<i>Any accommodation or modification</i>	0	229	165	97	491	0.94%
<i>No accommodations or modifications</i>	0	14,474	7,615	29,828	51,917	99.06%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	0	1	0.01%
Large print	0	0	1	2	3	0.02%
IEP accommodations	0	47	19	21	87	0.45%
504 Plan accommodations	0	2	4	5	11	0.06%
EL accommodations	0	39	33	8	80	0.41%
Used calculator or arithmetic tables	0	11	13	4	28	0.14%
Unique modifications	0	1	2	0	3	0.02%
<i>Any accommodation or modification</i>	0	89	61	37	187	0.97%
<i>No accommodations or modifications</i>	0	5,696	2,995	10,439	19,130	99.03%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	1	1	1	3	0.15%
Large print	0	0	1	3	4	0.20%
IEP accommodations	0	165	67	70	302	14.80%
504 Plan accommodations	0	1	1	4	6	0.29%
EL accommodations	0	5	2	0	7	0.34%
Used calculator or arithmetic tables	0	42	21	11	74	3.63%
Unique modifications	0	1	5	0	6	0.29%
<i>Any accommodation or modification</i>	0	182	78	83	343	16.81%
<i>No accommodations or modifications</i>	0	780	345	572	1,697	83.19%

Table 5.B.33: Accommodation Summary for Integrated Science I

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	4	1	0	5	0.00%
Large print	0	13	9	7	29	0.03%
IEP accommodations	0	892	373	207	1,472	1.45%
504 Plan accommodations	0	17	20	0	37	0.04%
EL accommodations	0	255	192	18	465	0.46%
Used calculator or arithmetic tables	0	80	26	19	125	0.12%
Unique modifications	0	2	1	1	4	0.00%
<i>Any accommodation or modification</i>	0	1,181	602	229	2,012	1.98%
<i>No accommodations or modifications</i>	0	73,791	16,790	9,201	99,782	98.02%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	1	0	0	1	0.00%
Large print	0	2	5	3	10	0.02%
IEP accommodations	0	318	153	59	530	1.23%
504 Plan accommodations	0	8	6	0	14	0.03%
EL accommodations	0	227	106	16	349	0.81%
Used calculator or arithmetic tables	0	28	13	1	42	0.10%
Unique modifications	0	1	0	0	1	0.00%
<i>Any accommodation or modification</i>	0	557	274	76	907	2.10%
<i>No accommodations or modifications</i>	0	31,381	7,120	3,845	42,346	97.90%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	2	1	0	3	0.03%
Large print	0	13	8	7	28	0.26%
IEP accommodations	0	850	344	201	1,395	13.14%
504 Plan accommodations	0	11	5	0	16	0.15%
EL accommodations	0	2	22	0	24	0.23%
Used calculator or arithmetic tables	0	75	25	18	118	1.11%
Unique modifications	0	2	1	1	4	0.04%
<i>Any accommodation or modification</i>	0	879	387	204	1,470	13.85%
<i>No accommodations or modifications</i>	0	5,566	2,332	1,247	9,145	86.15%

Table 5.B.34: Accommodation Summary for Integrated Science II

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	0	1	0.00%
Large print	0	4	3	0	7	0.03%
IEP accommodations	0	57	241	101	399	1.62%
504 Plan accommodations	0	1	13	0	14	0.06%
EL accommodations	0	36	156	3	195	0.79%
Used calculator or arithmetic tables	0	17	16	8	41	0.17%
Unique modifications	0	0	0	1	1	0.00%
<i>Any accommodation or modification</i>	0	97	415	109	621	2.52%
<i>No accommodations or modifications</i>	0	4,158	15,028	4,879	24,065	97.48%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	0	1	0.01%
Large print	0	1	1	0	2	0.02%
IEP accommodations	0	35	98	50	183	1.57%
504 Plan accommodations	0	0	8	0	8	0.07%
EL accommodations	0	35	64	3	102	0.87%
Used calculator or arithmetic tables	0	11	3	3	17	0.15%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	71	171	54	296	2.54%
<i>No accommodations or modifications</i>	0	2,235	6,967	2,161	11,363	97.46%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	0	1	0.04%
Large print	0	4	3	0	7	0.28%
IEP accommodations	0	55	222	97	374	14.81%
504 Plan accommodations	0	0	2	0	2	0.08%
EL accommodations	0	0	8	0	8	0.32%
Used calculator or arithmetic tables	0	17	15	7	39	1.54%
Unique modifications	0	0	0	1	1	0.04%
<i>Any accommodation or modification</i>	0	58	236	101	395	15.64%
<i>No accommodations or modifications</i>	0	355	1,202	574	2,131	84.36%

Table 5.B.35: Accommodation Summary for Integrated Science III

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	1	2	0.03%
Large print	0	1	2	1	4	0.07%
IEP accommodations	0	8	33	5	46	0.78%
504 Plan accommodations	0	0	2	0	2	0.03%
EL accommodations	0	8	33	2	43	0.73%
Used calculator or arithmetic tables	0	0	0	0	0	0.00%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	17	71	9	97	1.65%
<i>No accommodations or modifications</i>	0	1,382	1,822	2,569	5,773	98.35%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	1	1	2	0.09%
Large print	0	0	0	1	1	0.04%
IEP accommodations	0	3	6	3	12	0.52%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	8	21	2	31	1.34%
Used calculator or arithmetic tables	0	0	0	0	0	0.00%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	11	28	7	46	1.99%
<i>No accommodations or modifications</i>	0	271	701	1,288	2,260	98.01%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	1	1	0.22%
Large print	0	0	2	1	3	0.65%
IEP accommodations	0	8	28	5	41	8.93%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	1	0	1	0.22%
Used calculator or arithmetic tables	0	0	0	0	0	0.00%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	8	31	7	46	10.02%
<i>No accommodations or modifications</i>	0	73	123	217	413	89.98%

Table 5.B.36: Accommodation Summary for Integrated Science IV

All Tested	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
IEP accommodations	0	4	18	8	30	1.87%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	5	0	5	0.31%
Used calculator or arithmetic tables	0	1	0	0	1	0.06%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	4	23	8	35	2.18%
<i>No accommodations or modifications</i>	0	577	732	258	1,567	97.82%
English Learners	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
IEP accommodations	0	3	4	4	11	1.50%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	1	0	1	0.14%
Used calculator or arithmetic tables	0	1	0	0	1	0.14%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	3	5	4	12	1.64%
<i>No accommodations or modifications</i>	0	365	287	69	721	98.36%
Special Education Students	Grade 8	Grade 9	Grade 10	Grade 11	Total	Pct. of Total
Braille	0	0	0	0	0	0.00%
Large print	0	0	0	0	0	0.00%
IEP accommodations	0	3	18	8	29	15.76%
504 Plan accommodations	0	0	0	0	0	0.00%
EL accommodations	0	0	2	0	2	1.09%
Used calculator or arithmetic tables	0	1	0	0	1	0.54%
Unique modifications	0	0	0	0	0	0.00%
<i>Any accommodation or modification</i>	0	3	20	8	31	16.85%
<i>No accommodations or modifications</i>	0	63	70	20	153	83.15%

Appendix 5.C

Table 5.C.1: Distribution of CST Scaled Scores for English-language Arts

Scaled Score	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
570 – 600	453	395	11	70	54	17	12	49	65	57
540 – 569	0	0	39	348	226	3	59	0	244	0
510 – 539	1,560	1,147	484	0	608	236	208	153	0	202
480 – 509	2,970	2,358	2,032	2,582	1,079	1,249	1,284	1,223	1,956	1,284
450 – 479	10,500	8,312	8,161	6,241	7,343	6,331	3,365	6,394	5,420	3,389
420 – 449	15,290	13,183	22,166	24,641	19,474	19,222	14,933	20,380	15,827	15,342
390 – 419	49,224	37,371	56,508	55,283	36,472	54,657	44,588	50,983	40,781	25,451
360 – 389	66,274	58,713	74,224	75,059	75,862	78,151	74,155	71,041	66,054	59,481
330 – 359	86,513	85,835	92,603	93,203	98,051	84,149	95,167	91,863	80,790	64,303
300 – 329	80,321	90,387	99,152	92,321	107,234	98,494	102,937	88,066	81,849	70,469
270 – 299	83,589	78,988	87,345	77,732	82,316	76,000	85,562	80,021	76,487	52,388
240 – 269	61,796	62,788	34,713	48,068	46,087	51,686	49,614	60,557	61,858	53,483
210 – 239	13,295	37,363	3,457	6,999	5,150	13,781	14,628	14,085	14,044	31,693
180 – 209	739	3,415	70	259	294	648	826	743	612	6,207
150 – 179	67	356	65	53	40	58	79	136	104	480

Table 5.C.2: Distribution of CST Scaled Scores for History/Social Sciences

Scaled Score	Grade 8	Grade 10	Grade 11
570 – 600	91	371	224
540 – 569	149	594	400
510 – 539	686	980	700
480 – 509	1,447	3,136	2,581
450 – 479	5,863	5,197	6,924
420 – 449	10,797	16,755	15,630
390 – 419	27,502	32,642	29,722
360 – 389	58,013	42,504	48,544
330 – 359	78,867	69,826	58,779
300 – 329	97,630	69,995	79,637
270 – 299	116,251	101,705	76,429
240 – 269	75,071	70,889	40,710
210 – 239	9,637	21,612	15,585
180 – 209	441	2,491	1,767
150 – 179	60	314	187

Table 5.C.3: Distribution of CST Scaled Scores for Mathematics Grade 2 through 7

Scaled Score	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
570 – 600	3,819	6,988	1,906	2,376	1,857	1,644
540 – 569	7,340	0	0	2,608	0	1,649
510 – 539	10,218	6,906	4,309	7,748	2,233	2,235
480 – 509	12,254	18,269	6,588	10,475	6,557	6,017
450 – 479	28,344	22,282	17,982	19,304	14,426	8,063
420 – 449	30,619	36,287	33,724	23,043	24,739	22,151
390 – 419	62,732	61,907	49,349	44,799	37,534	38,115
360 – 389	59,973	58,608	71,693	50,481	62,207	58,197
330 – 359	79,459	75,598	84,255	67,016	73,071	80,012
300 – 329	65,047	69,680	84,292	87,145	97,625	87,293
270 – 299	56,871	62,179	72,422	77,072	97,546	93,449
240 – 269	31,956	42,125	50,378	55,189	54,946	68,406
210 – 239	18,581	18,577	10,056	30,828	7,459	19,245
180 – 209	6,580	3,571	745	5,427	608	1,418
150 – 179	1,386	327	67	1,213	71	180

Table 5.C.4: Distribution of CST Scaled Scores for Mathematics End of Course Tests

Scaled Score	General Math	Algebra I	Geometry	Algebra II	High School Math	Integrated Math I	Integrated Math II	Integrated Math III
570 – 600	34	693	346	234	311	4	15	17
540 – 569	0	480	366	285	664	7	14	13
510 – 539	183	1,300	557	388	977	8	18	26
480 – 509	237	2,981	2,518	1,116	1,261	16	68	32
450 – 479	1,739	4,878	3,767	2,605	3,168	18	95	108
420 – 449	6,606	12,825	8,889	5,409	3,564	56	154	161
390 – 419	18,289	22,093	15,980	10,113	7,931	114	401	211
360 – 389	37,324	43,277	28,087	14,760	10,728	245	578	415
330 – 359	64,570	69,127	37,296	29,094	13,602	651	1,263	794
300 – 329	82,520	108,152	65,688	32,074	14,333	1,246	1,663	957
270 – 299	93,195	169,249	63,937	37,397	11,488	2,553	2,026	837
240 – 269	67,247	129,263	54,265	34,009	6,754	2,982	1,350	513
210 – 239	31,505	34,974	15,767	10,820	3,953	1,299	210	248
180 – 209	3,336	3,875	802	2,380	1,167	168	16	60
150 – 179	207	392	107	181	161	34	4	16

Table 5.C.5: Distribution of CST Scaled Scores for Science

Scaled Score	Grade 5 Science	Biology	Chemistry	Earth Science	Physics	Integrated Science I	Integrated Science II	Integrated Science III	Integrated Science IV
570 – 600	3	57	97	6	19	0	0	0	0
540 – 569	30	0	0	0	0	0	0	0	0
510 – 539	105	238	293	17	58	1	1	0	0
480 – 509	590	552	458	49	120	4	1	0	0
450 – 479	1,414	2,137	1,633	310	450	16	14	3	0
420 – 449	7,041	10,072	3,814	1,208	1,347	47	52	12	2
390 – 419	21,141	26,041	9,960	5,493	3,841	425	257	45	5
360 – 389	49,769	61,054	22,358	15,052	6,124	2,602	1,031	207	68
330 – 359	93,778	87,548	36,287	23,473	9,473	9,986	2,979	663	217
300 – 329	141,637	94,708	50,457	33,650	11,695	26,543	6,934	1,966	483
270 – 299	106,602	79,136	38,239	34,196	12,931	38,813	8,124	2,367	506
240 – 269	55,651	30,782	15,359	18,566	5,588	20,182	4,627	564	275
210 – 239	5,829	2,437	1,348	1,634	428	2,123	422	22	14
180 – 209	298	118	63	74	19	109	16	3	6
150 – 179	43	32	13	13	10	10	3	0	0

Appendix 5.D

Table 5.D.1: Reliabilities and Standard Errors of Measurement for the CSTs

Subject Area	Test Name	No. of Items	No. of Examinees	Mean RS	Std. Dev. RS	Reliability	SEM
<i>English Language Arts</i>	2	65	472,591	37.57	13.61	0.94	3.33
	3	64	480,611	38.84	13.09	0.93	3.46
	4*	75	481,030	42.65	15.15	0.94	3.71
	5	75	482,859	44.29	14.78	0.94	3.62
	6	75	480,290	42.39	14.17	0.93	3.75
	7*	75	484,682	43.02	14.52	0.93	3.84
	8	75	487,417	42.29	13.54	0.92	3.83
	9	75	485,694	41.31	14.44	0.93	3.82
	10	75	446,091	43.32	15.48	0.94	3.79
	11	75	384,229	42.50	14.71	0.93	3.89
<i>History</i>	8	75	482,505	35.42	12.98	0.91	3.89
	10	60	439,011	28.98	11.49	0.91	3.45
	11	60	377,819	29.42	11.11	0.90	3.51
<i>Mathematics</i>	2	65	475,179	46.09	11.95	0.93	3.16
	3	65	483,304	41.65	13.47	0.94	3.30
	4	65	487,766	40.88	13.91	0.94	3.41
	5	65	484,724	36.25	12.92	0.93	3.42
	6	65	480,879	34.52	13.11	0.93	3.47
	7	65	488,074	34.40	12.68	0.92	3.59
	General Mathematics	65	406,992	30.35	10.92	0.89	3.62
	Algebra I	65	603,559	26.39	10.10	0.87	3.64
	Geometry	65	298,372	28.37	11.30	0.90	3.57
	Algebra II	64	180,865	31.06	11.30	0.90	3.57
	High School Mathematics	65	80,062	42.59	12.31	0.93	3.26
	Integrated Mathematics I	65	9,401	22.66	8.18	0.81	3.57
	Integrated Mathematics II	65	7,875	25.29	9.37	0.85	3.63
	Integrated Mathematics III	65	4,408	29.93	10.43	0.88	3.61
<i>Science</i>	Grade 5 Science	60	483,931	28.43	9.59	0.86	3.59
	Biology	60	394,912	31.26	10.96	0.90	3.47
	Chemistry	60	180,379	30.75	11.22	0.90	3.55
	Earth Science	60	133,741	28.16	10.96	0.89	3.64
	Physics	60	52,103	30.95	12.02	0.92	3.40
	Integrated Science I	60	100,861	23.37	8.37	0.82	3.55
	Integrated Science II	60	24,461	24.11	8.89	0.84	3.56
	Integrated Science III	60	5,852	21.98	7.74	0.79	3.55
	Integrated Science IV	60	1,576	25.50	8.51	0.83	3.51

* MC items

Table 5.D.2: Sub-score Reliabilities and Correlations for English-language Arts

Reporting Clusters	# of Items	Correlation					Reliab.	SEM
		1	2	3	4	5		
Grade 2	21	1.00	0.75	0.68	0.77	0.65	0.80	1.93
	15	0.75	1.00	0.70	0.74	0.66	0.80	1.67
	6	0.68	0.70	1.00	0.66	0.59	0.63	1.04
	14	0.77	0.74	0.66	1.00	0.67	0.82	1.55
	8	0.65	0.66	0.59	0.67	1.00	0.60	1.28
Grade 3		1	2	3	4	5		
	20	1.00	0.75	0.72	0.74	0.64	0.84	1.81
	15	0.75	1.00	0.71	0.68	0.64	0.76	1.70
	8	0.72	0.71	1.00	0.64	0.57	0.68	1.17
	13	0.74	0.68	0.64	1.00	0.60	0.72	1.55
Grade 4	9	0.64	0.64	0.57	0.60	1.00	0.56	1.38
		1	2	3	4	5		
	18	1.00	0.78	0.66	0.75	0.74	0.82	1.76
	15	0.78	1.00	0.67	0.72	0.74	0.82	1.63
	9	0.66	0.67	1.00	0.61	0.62	0.58	1.35
Grade 5	18	0.75	0.72	0.61	1.00	0.72	0.77	1.89
	15	0.74	0.74	0.62	0.72	1.00	0.73	1.74
		1	2	3	4	5		
	14	1.00	0.74	0.75	0.72	0.74	0.80	1.57
	16	0.74	1.00	0.70	0.68	0.71	0.73	1.73
Grade 6	12	0.75	0.70	1.00	0.66	0.69	0.77	1.40
	16	0.72	0.68	0.66	1.00	0.71	0.76	1.72
	17	0.74	0.71	0.69	0.71	1.00	0.75	1.80
		1	2	3	4	5		
	13	1.00	0.70	0.65	0.71	0.68	0.72	1.54
Grade 7	17	0.70	1.00	0.69	0.68	0.72	0.71	1.85
	12	0.65	0.69	1.00	0.64	0.68	0.66	1.56
	16	0.71	0.68	0.64	1.00	0.69	0.79	1.58
	17	0.68	0.72	0.68	0.69	1.00	0.77	1.84
		1	2	3	4	5		
Grade 8	11	1.00	0.71	0.67	0.69	0.68	0.68	1.44
	18	0.71	1.00	0.72	0.72	0.73	0.78	1.83
	13	0.67	0.72	1.00	0.67	0.68	0.69	1.62
	16	0.69	0.72	0.67	1.00	0.74	0.77	1.71
	17	0.68	0.73	0.68	0.74	1.00	0.75	1.85

Table 5.D.2: Sub-score Reliabilities and Correlations for English-language Arts (continued)

Reporting Clusters	# of Items	Correlation					Reliab.	SEM
		1	2	3	4	5		
Grade 9	8	1.00	0.70	0.68	0.62	0.72	0.68	1.18
	18	0.70	1.00	0.75	0.64	0.75	0.77	1.85
	16	0.68	0.75	1.00	0.61	0.73	0.74	1.75
	13	0.62	0.64	0.61	1.00	0.69	0.65	1.61
	20	0.72	0.75	0.73	0.69	1.00	0.80	1.98
Grade 10		1	2	3	4	5		
Grade 10	8	1.00	0.71	0.66	0.65	0.69	0.63	1.19
	18	0.71	1.00	0.76	0.71	0.76	0.84	1.81
	16	0.66	0.76	1.00	0.64	0.69	0.76	1.81
	13	0.65	0.71	0.64	1.00	0.76	0.74	1.54
	20	0.69	0.76	0.69	0.76	1.00	0.81	1.93
Grade 11		1	2	3	4	5		
Grade 11	8	1.00	0.67	0.63	0.64	0.67	0.65	1.21
	19	0.67	1.00	0.73	0.67	0.73	0.78	1.90
	17	0.63	0.73	1.00	0.65	0.72	0.75	1.83
	9	0.64	0.67	0.65	1.00	0.74	0.69	1.27
	22	0.67	0.73	0.72	0.74	1.00	0.81	2.08

Table 5.D.3: Sub-score Reliabilities and Correlations for History

Reporting Clusters	# of Items	Correlation					Reliab	SEM
		1	2	3	4	5		
Grade 8	16	1.00	0.63	0.56	0.62	0.55	0.61	1.83
	14	0.63	1.00	0.62	0.67	0.60	0.71	1.70
	10	0.56	0.62	1.00	0.61	0.56	0.54	1.44
	22	0.62	0.67	0.61	1.00	0.69	0.77	2.12
	13	0.55	0.60	0.56	0.69	1.00	0.67	1.63
Grade 10 (World History)		1	2	3	4	5		
Grade 10 (World History)	13	1.00	0.64	0.65	0.64	0.60	0.68	1.64
	10	0.64	1.00	0.66	0.62	0.61	0.65	1.43
	14	0.65	0.66	1.00	0.66	0.62	0.71	1.69
	13	0.64	0.62	0.66	1.00	0.63	0.69	1.62
	10	0.60	0.61	0.62	0.63	1.00	0.61	1.41
Grade 11 (U.S. History)		1	2	3	4	5		
Grade 11 (U.S. History)	10	1.00	0.64	0.57	0.61	0.60	0.61	1.44
	13	0.64	1.00	0.63	0.66	0.66	0.68	1.61
	12	0.57	0.63	1.00	0.59	0.61	0.58	1.60
	12	0.61	0.66	0.59	1.00	0.66	0.68	1.53
	13	0.60	0.66	0.61	0.66	1.00	0.70	1.63

Table 5.D.4: Sub-score Reliabilities and Correlations for Mathematics

Reporting Clusters	# of Items	Correlation						Rel.	SEM
		1	2	3	4	5	6		
Grade 2	14	1.00	0.76	0.65	0.68	0.64	-	0.79	1.53
	24	0.76	1.00	0.68	0.73	0.67	-	0.83	1.99
	6	0.65	0.68	1.00	0.61	0.58	-	0.59	0.91
	14	0.68	0.73	0.61	1.00	0.62	-	0.70	1.38
	7	0.64	0.67	0.58	0.62	1.00	-	0.60	1.01
Grade 3		1	2	3	4	5	6		
	16	1.00	0.79	0.77	0.71	0.62	-	0.81	1.67
	16	0.79	1.00	0.78	0.70	0.61	-	0.83	1.64
	12	0.77	0.78	1.00	0.70	0.62	-	0.78	1.37
	16	0.71	0.70	0.70	1.00	0.61	-	0.73	1.66
Grade 4	5	0.62	0.61	0.62	0.61	1.00	-	0.54	0.89
		1	2	3	4	5	6		
	17	1.00	0.76	0.77	0.69	0.54	-	0.80	1.65
	14	0.76	1.00	0.78	0.68	0.53	-	0.84	1.54
	18	0.77	0.78	1.00	0.69	0.54	-	0.84	1.76
Grade 5	12	0.69	0.68	0.69	1.00	0.50	-	0.72	1.53
	4	0.54	0.53	0.54	0.50	1.00	-	0.46	0.81
		1	2	3	4	5	6		
	12	1.00	0.71	0.72	0.68	0.47	-	0.74	1.46
	17	0.71	1.00	0.72	0.70	0.49	-	0.79	1.81
Grade 6	17	0.72	0.72	1.00	0.71	0.51	-	0.79	1.74
	15	0.68	0.70	0.71	1.00	0.48	-	0.75	1.70
	4	0.47	0.49	0.51	0.48	1.00	-	0.46	0.72
		1	2	3	4	5	6		
	15	1.00	0.73	0.77	0.62	0.71	-	0.79	1.68
Grade 7	10	0.73	1.00	0.73	0.56	0.66	-	0.71	1.37
	19	0.77	0.73	1.00	0.60	0.69	-	0.80	1.83
	10	0.62	0.56	0.60	1.00	0.58	-	0.60	1.42
	11	0.71	0.66	0.69	0.58	1.00	-	0.67	1.48
		1	2	3	4	5	6		
Grade 8	14	1.00	0.68	0.66	0.74	0.66	0.56	0.75	1.59
	7	0.68	1.00	0.62	0.64	0.56	0.50	0.69	1.22
	10	0.66	0.62	1.00	0.67	0.58	0.54	0.64	1.33
	15	0.74	0.64	0.67	1.00	0.67	0.58	0.76	1.69
	13	0.66	0.56	0.58	0.67	1.00	0.52	0.63	1.65
	5	0.56	0.50	0.54	0.58	0.52	1.00	0.57	0.92

Table 5.D.4: Sub-score Reliabilities and Correlations for Mathematics (continued)

Reporting Clusters		# of Items	Correlation						Reliab.	SEM
General Math			1	2	3	4	5	6		
1. Number Sense: Rational Numbers		14	1.00	0.63	0.62	0.60	0.52	0.53	0.69	1.67
2. Number Sense: Exponent, Powers and Roots		10	0.63	1.00	0.55	0.54	0.48	0.48	0.62	1.42
3. Algebra and Functions: Quantitative Relationships and Evaluating Expressions		11	0.62	0.55	1.00	0.59	0.45	0.52	0.69	1.43
4. Algebra and Functions: Multi-step Problems, Graphing, and Functions		10	0.60	0.54	0.59	1.00	0.49	0.50	0.56	1.41
5. Measurement and Geometry		11	0.52	0.48	0.45	0.49	1.00	0.45	0.46	1.52
6. Statistics, Data Analysis, and Probability		9	0.53	0.48	0.52	0.50	0.45	1.00	0.50	1.31
Algebra I			1	2	3	4	5	6		
1. Number Properties, Operations, and Linear Equations		17	1.00	0.59	0.66	0.50	-	-	0.68	1.85
2. Graphing and Systems of Linear Equations		14	0.59	1.00	0.62	0.50	-	-	0.64	1.65
3. Quadratics and Polynomials		21	0.66	0.62	1.00	0.55	-	-	0.71	2.06
4. Functions and Rational Expressions		13	0.50	0.50	0.55	1.00	-	-	0.49	1.62
Geometry			1	2	3	4	5	6		
1. Logic and Geometric Proofs		22	1.00	0.63	0.70	0.69	-	-	0.77	2.13
2. Volume and Area Formulas		11	0.63	1.00	0.61	0.59	-	-	0.61	1.41
3. Angle Relationships, Constructions, and Lines		17	0.70	0.61	1.00	0.65	-	-	0.68	1.87
4. Trigonometry		15	0.69	0.59	0.65	1.00	-	-	0.68	1.74
Algebra II			1	2	3	4	5	6		
1. Polynomials and Rational Expressions		19	1.00	0.65	0.70	0.64	-	-	0.80	1.84
2. Quadratics, Conics, and Complex Numbers		17	0.65	1.00	0.65	0.59	-	-	0.64	1.89
3. Exponents and Logarithms		15	0.70	0.65	1.00	0.64	-	-	0.71	1.77
4. Series, Combinatorics, and Probability and Statistics		13	0.64	0.59	0.64	1.00	-	-	0.61	1.62
High School Math			1	2	3	4	5	6		
1. Algebra I		18	1.00	0.74	0.81	0.58	-	-	0.82	1.68
2. Geometry		19	0.74	1.00	0.74	0.56	-	-	0.75	1.83
3. Algebra II		23	0.81	0.74	1.00	0.59	-	-	0.82	2.01
4. Probability and Statistics		5	0.58	0.56	0.59	1.00	-	-	0.59	0.95
Integrated Math I			1	2	3	4	5	6		
1. Algebra I: Number Proportions, Operations and Linear equations		15	1.00	0.54	0.57	0.29	0.29	-	0.70	1.75
2. Algebra I: Graphing		9	0.54	1.00	0.46	0.29	0.29	-	0.52	1.34
3. Algebra I: Quadratics and Polynomials		14	0.57	0.46	1.00	0.36	0.30	-	0.57	1.69
4. Algebra I: Functions and Relations Expressions		7	0.29	0.29	0.36	1.00	0.23	-	0.37	1.13
5. Geometry		20	0.29	0.29	0.30	0.23	1.00	-	0.32	1.90
Integrated Math II			1	2	3	4	5	6		
1. Algebra I		20	1.00	0.63	0.38	0.55	0.40	-	0.67	1.98
2. Geometry: Logic and Geometric Proofs		21	0.63	1.00	0.44	0.58	0.36	-	0.70	2.08
3. Geometry: Angle Relationships, Construction & Lines		9	0.38	0.44	1.00	0.35	0.24	-	0.29	1.39
4. Trigonometry		10	0.55	0.58	0.35	1.00	0.32	-	0.51	1.40
5. Algebra II/Probability and Statistics		5	0.40	0.36	0.24	0.32	1.00	-	0.31	1.01
Integrated Math III			1	2	3	4	5	6		
1. Geometry		5	1.00	0.39	0.35	0.41	0.38	-	0.30	1.01
2. Algebra II: Polynomials and Relations Expressions		19	0.39	1.00	0.59	0.65	0.57	-	0.75	1.89
3. Algebra II: Quadratics, Conics and Statistics		17	0.35	0.59	1.00	0.58	0.49	-	0.58	1.89
4. Algebra II: Exponents and Logarithms		15	0.41	0.65	0.58	1.00	0.56	-	0.71	1.77
5. Algebra II: Series, Combinatorics, Probability and Stat.		8	0.38	0.57	0.49	0.56	1.00	-	0.46	1.30

Table 5.D.5: Sub-score Reliabilities and Correlations for Science*

Reporting Clusters	# of Items	Correlation						Reliab	SEM
		1	2	3	4	5	6		
Biology									
1. Investigation and Experimentation	6	1.00	0.49	0.55	0.58	0.53	-	0.46	1.13
2. Cell Biology	9	0.49	1.00	0.59	0.61	0.55	-	0.52	1.39
3. Genetics	18	0.55	0.59	1.00	0.68	0.62	-	0.70	1.93
4. Ecology and Evolution	16	0.58	0.61	0.68	1.00	0.67	-	0.74	1.80
5. Physiology	11	0.53	0.55	0.62	0.67	1.00	-	0.68	1.42
Chemistry		1	2	3	4	5	6		
1. Investigation and Experimentation	6	1.00	0.50	0.52	0.58	0.51	0.47	0.57	1.05
2. Atomic and Molecular Structure	8	0.50	1.00	0.57	0.58	0.55	0.55	0.56	1.29
3. Chemical Bonds, Biochemistry	9	0.52	0.57	1.00	0.62	0.58	0.59	0.60	1.37
4. Kinetics, Thermodynamics	14	0.58	0.58	0.62	1.00	0.62	0.61	0.70	1.68
5. Chemical Reactions	13	0.51	0.55	0.58	0.62	1.00	0.57	0.62	1.66
6. Conservation of Matter and Stoichiometry	10	0.47	0.55	0.59	0.61	0.57	1.00	0.69	1.39
Earth Science		1	2	3	4	5	6		
1. Investigation and Experimentation	6	1.00	0.61	0.60	0.65	-	-	0.60	1.09
2. Astronomy and Cosmology	12	0.61	1.00	0.64	0.71	-	-	0.67	1.58
3. Solid Earth	14	0.60	0.64	1.00	0.70	-	-	0.63	1.74
4. The Earth's Energy	28	0.65	0.71	0.70	1.00	-	-	0.78	2.42
Physics		1	2	3	4	5	6		
1. Investigation and Experimentation	6	1.00	0.63	0.62	0.64	0.55	0.57	0.61	1.08
2. Motion and Forces	12	0.63	1.00	0.69	0.65	0.58	0.61	0.69	1.54
3. Conservation of Energy and Momentum	12	0.62	0.69	1.00	0.64	0.57	0.61	0.74	1.52
4. Heat and Thermodynamics	9	0.64	0.65	0.64	1.00	0.59	0.59	0.68	1.30
5. Waves	10	0.55	0.58	0.57	0.59	1.00	0.52	0.57	1.47
6. Electric and Magnetic Phenomena	11	0.57	0.61	0.61	0.59	0.52	1.00	0.68	1.49

*Reporting clusters (sub scores) were not reported for 2004 Grade 5 Science.

Table 5.D.5: Sub-score Reliabilities and Correlations for Science (continued)

Reporting Clusters	# of Items	Correlation						Reliab.	SEM
		1	2	3	4	5	6		
Integrated Science I									
1. Investigation and Experimentation	6	1.00	0.42	0.35	0.46	0.35	-	0.35	1.14
2. Biology/Life Sciences	10	0.42	1.00	0.40	0.59	0.43	-	0.59	1.45
3. Chemistry	15	0.35	0.40	1.00	0.44	0.35	-	0.41	1.74
4. Earth Sciences	17	0.46	0.59	0.44	1.00	0.49	-	0.64	1.91
5. Physics	12	0.35	0.43	0.35	0.49	1.00	-	0.41	1.58
Integrated Science II									
1. Investigation and Experimentation	6	1.00	0.52	0.41	0.60	0.42	-	0.50	1.11
2. Biology/Life Sciences	15	0.52	1.00	0.44	0.55	0.46	-	0.56	1.82
3. Chemistry	6	0.41	0.44	1.00	0.43	0.42	-	0.42	1.10
4. Earth Sciences	15	0.60	0.55	0.43	1.00	0.45	-	0.69	1.77
5. Physics	18	0.42	0.46	0.42	0.45	1.00	-	0.47	1.90
Integrated Science III									
1. Investigation and Experimentation	6	1.00	0.53	0.45	0.45	0.34	-	0.50	1.09
2. Biology/Life Sciences	16	0.53	1.00	0.47	0.46	0.33	-	0.55	1.82
3. Chemistry	23	0.45	0.47	1.00	0.40	0.34	-	0.53	2.14
4. Earth Sciences	7	0.45	0.46	0.40	1.00	0.31	-	0.41	1.21
5. Physics	8	0.34	0.33	0.34	0.31	1.00	-	0.24	1.29
Integrated Science IV									
1. Investigation and Experimentation	6	1.00	0.52	0.33	0.54	0.37	-	0.43	1.12
2. Biology/Life Sciences	13	0.52	1.00	0.36	0.61	0.41	-	0.67	1.62
3. Chemistry	10	0.33	0.36	1.00	0.40	0.33	-	0.23	1.45
4. Earth Sciences	15	0.54	0.61	0.40	1.00	0.45	-	0.67	1.79
5. Physics	16	0.37	0.41	0.33	0.45	1.00	-	0.33	1.79

Table 5.D.6: Scaled Score Conditional Standard Error of Measurement

Subject Area	Test Name	Below Basic		Basic		Proficient		Advance	
		Min SS	CSEM	Min SS	CSEM	Min SS	CSEM	Min SS	CSEM
<i>English Language Arts</i>	2	262	14	300	13	350	14	402	18
	3	259	15	300	14	350	16	402	20
	4*	269	13	300	12	350	12	393	14
	5	271	13	300	12	350	13	395	15
	6	268	13	300	13	350	13	394	15
	7*	263	14	300	13	350	14	401	15
	8	266	15	300	14	350	14	395	17
	9	265	15	300	13	350	14	397	17
	10	263	13	300	13	350	13	392	16
	11	259	15	300	14	350	15	396	18
* Including writing prompt									
<i>History</i>	8	271	16	300	15	350	15	396	17
	10	275	18	300	18	350	17	400	20
	11	270	19	300	18	350	17	401	20
<i>Mathematics</i>	2	236	18	300	17	350	19	414	24
	3	236	18	300	16	350	17	414	21
	4	245	15	300	13	350	14	401	18
	5	248	20	300	19	350	19	430	23
	6	253	18	300	15	350	15	415	19
	7	257	17	300	16	350	17	414	20
	General Mathematics	257	17	300	17	350	17	414	20
	Algebra I	253	20	300	18	350	18	428	21
	Geometry	247	19	300	16	350	15	418	18
	Algebra II	257	18	300	18	350	17	416	22
	High School Mathematics	235	18	300	16	350	17	420	24
	Integrated Mathematics I	249	21	300	19	350	19	425	22
	Integrated Mathematics II	258	22	300	19	350	17	418	19
	Integrated Mathematics III	252	23	300	21	350	20	428	24
<i>Science**</i>	Grade 5 Science	268	17	300	16	350	16	410	19
	Biology	277	14	300	14	350	14	393	16
	Chemistry	276	15	300	14	350	13	394	16
	Earth Science	276	14	300	13	350	14	394	16
	Physics	276	14	300	13	350	14	393	16

** CSEMS for the Integrated Science tests are not available

Appendix 5.E

Table 5.E.1: Inter-Rater Analyses for ELA Grade 4

	Rater 1									Total
	1	%	2	%	3	%	4	%		
Rater 2	1	111,642	23.31	37,166	7.76	281	0.06	7	0.00	149,096
	2	37,037	7.73	254,005	53.03	15,239	3.18	127	0.03	306,408
	3	308	0.06	15,363	3.21	7,187	1.50	232	0.05	23,090
	4	3	0.00	138	0.03	252	0.05	34	0.01	427
	Total	148,990		306,672		22,959		400		479,021

Percent Exact= 77.84%

Percent Adjacent= 21.98%

Kappa= 0.55

Weighted Kappa= 0.57

Table 5.E.2: Inter-Rater Analyses for ELA Grade 7

	Rater 1									Total
	1	%	2	%	3	%	4	%		
Rater 2	1	26,133	5.44	17,163	3.57	249	0.05	7	0.00	43,552
	2	16,561	3.45	283,800	59.10	42,128	8.77	619	0.13	343,108
	3	229	0.05	42,721	8.90	44,056	9.17	2,406	0.50	89,412
	4	1	0.00	663	0.14	2,564	0.53	899	0.19	4,127
	Total	42,924		344,347		88,997		3,931		480,199

Percent Exact= 73.90%

Percent Adjacent= 25.79%

Kappa= 0.41

Weighted Kappa= 0.46

Table 5.E.3: Descriptive Statistics for the Ratings by the Two Raters

Grades	N*	Rater 1		Rater 2			
		Mean	Std	Mean	Std	<i>Pearson Correlation</i>	<i>Reliability</i>
4	479,021	1.739	0.543	1.739	0.542	0.614	0.761
7	480,199	2.113	0.546	2.112	0.543	0.542	0.703

* Number of students who received valid ratings of 1-4

Table 5.E.4: Distribution of Writing Scores for ELA Grade 4

Score	Total	Females	Males	Am. Ind.	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White	Eng-best	Lrnr
0	0.59	0.22	0.37	0.01	0.04	0.00	0.01	0.32	0.05	0.16	0.30	0.29
2	23.48	9.80	13.68	0.22	0.95	0.13	0.28	14.35	2.51	4.93	11.21	12.27
3	13.04	6.13	6.91	0.11	0.71	0.08	0.24	7.30	1.17	3.38	6.63	6.41
4	55.10	28.65	26.45	0.40	5.13	0.38	1.65	25.22	3.85	18.22	31.36	23.74
5	5.71	3.25	2.47	0.03	0.87	0.03	0.22	1.52	0.26	2.72	3.94	1.77
6	1.94	1.11	0.82	0.01	0.35	0.01	0.08	0.37	0.06	1.04	1.43	0.51
7	0.12	0.07	0.05	0.00	0.01	0.00	0.00	0.02	0.00	0.07	0.09	0.02
8	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0
Total		49.24	50.76	0.78	8.06	0.63	2.48	49.10	7.90	30.53	54.98	45.01

Table 5.E.5: Distribution of Writing Scores for ELA Grade 7

Score	Total	Females	Males	Am.Ind	Asian	Pac. Isl	Filipino	Hisp.	Af. Am.	White	Eng-best	Lrnr
0	0.61	0.24	0.36	0.01	0.03	0.00	0.01	0.28	0.07	0.19	0.36	0.24
2	5.20	1.52	3.67	0.04	0.22	0.02	0.04	3.43	0.53	0.88	2.04	3.15
3	5.65	1.89	3.77	0.05	0.23	0.03	0.07	3.45	0.62	1.17	2.58	3.07
4	60.45	28.34	32.11	0.53	4.19	0.39	1.47	29.87	5.29	18.44	33.59	26.86
5	16.26	9.66	6.6	0.11	1.82	0.10	0.58	5.59	0.98	7.00	10.64	5.62
6	10.43	6.9	3.53	0.06	1.61	0.06	0.40	2.57	0.43	5.24	7.4	3.03
7	1.05	0.74	0.31	0.00	0.20	0.00	0.05	0.17	0.03	0.57	0.77	0.28
8	0.35	0.26	0.09	0.00	0.08	0.00	0.01	0.04	0.01	0.19	0.26	0.09
Total		49.55	50.44	0.80	8.38	0.60	2.63	45.40	7.96	33.68	57.64	42.34

Table 5.E.6 Generalizability Analyses for Grade 4 Writing — [(Person: Essay) x Rater Design]

Effect	Degrees of Freedom	Sum of Squares	Mean Squares	Variance Components
E	1	207.28	207.28	0.00
P:E	479,019	227,400.96	0.47	0.18
R	1	0.01	0.01	0.00
ER	1	0.00	0.00	0.00
PR:E	479,019	54,397.49	0.11	0.11

Note: E=Essay, P=Person and R=Raters **G-Coefficient=0.761**

Table 5.E.7: Generalizability Analyses for Grade 7 Writing — [(Person: Essay) x Rater Design)]

Effect	Degrees of Freedom	Sum of Squares	Mean Squares	Variance Components
E	1	40.12	40.12	0.00
P:E	480,197	219,593.39	0.46	0.16
R	1	0.03	0.03	0.00
ER	1	0.12	0.12	0.00
PR:E	480,197	65,327.35	0.14	0.14

Note: E=Essay, P=Person and R=Raters **G-Coefficient=0.703**

Appendix 5.F

Table 5.F.1: Reliability of Classification for English-language Arts Grade 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-19	0.09	0.03	0.00	0.00	0.00	0.12
	20-30	0.02	0.17	0.03	0.00	0.00	0.22
	31-44	0.00	0.03	0.25	0.03	0.00	0.31
	45-54	0.00	0.00	0.03	0.17	0.02	0.23
	55-64	0.00	0.00	0.00	0.02	0.10	0.13
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.94							
Decision Consistency	0-19	0.08	0.04	0.00	0.00	0.00	0.12
	20-30	0.03	0.14	0.04	0.00	0.00	0.22
	31-44	0.00	0.04	0.22	0.04	0.00	0.31
	45-54	0.00	0.00	0.04	0.15	0.04	0.23
	55-64	0.00	0.00	0.00	0.03	0.09	0.13
Estimated Proportion Correctly Classified: Total = 0.68, Proficient & Above = 0.92							

Table 5.F.2: Reliability of Classification for English-language Arts Grade 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-23	0.12	0.03	0.00	0.00	0.00	0.16
	24-34	0.02	0.17	0.03	0.00	0.00	0.22
	35-47	0.00	0.04	0.25	0.03	0.00	0.32
	48-56	0.00	0.00	0.04	0.16	0.02	0.22
	57-65	0.00	0.00	0.00	0.03	0.06	0.09
Estimated Proportion Correctly Classified: Total = 0.76, Proficient & Above = 0.93							
Decision Consistency	0-23	0.12	0.04	0.00	0.00	0.00	0.16
	24-34	0.04	0.14	0.04	0.00	0.00	0.22
	35-47	0.00	0.05	0.22	0.05	0.00	0.32
	48-56	0.00	0.00	0.05	0.13	0.03	0.22
	57-65	0.00	0.00	0.00	0.03	0.06	0.09
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.90							

Table 5.F.3: Reliability of Classification for English-language Arts (Reading) Grade 4

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-21	0.06	0.03	0.00	0.00	0.00	0.09
	22-30	0.02	0.12	0.03	0.00	0.00	0.17
	31-47	0.00	0.03	0.28	0.03	0.00	0.33
	48-59	0.00	0.00	0.03	0.18	0.02	0.24
	60-75	0.00	0.00	0.00	0.03	0.14	0.17
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.94							
Decision Consistency	0-21	0.05	0.03	0.00	0.00	0.00	0.09
	22-30	0.03	0.09	0.04	0.00	0.00	0.17
	31-47	0.00	0.04	0.25	0.04	0.00	0.33
	48-59	0.00	0.00	0.05	0.15	0.04	0.24
	60-75	0.00	0.00	0.00	0.03	0.14	0.17
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.91							

Table 5.F.4: Reliability of Classification for English-language Arts (Reading & Writing) Grade 4

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-23	0.03	0.04	0.00	0.00	0.00	0.07
	24-33	0.02	0.12	0.04	0.00	0.00	0.18
	34-51	0.00	0.04	0.27	0.04	0.00	0.34
	52-63	0.00	0.00	0.04	0.16	0.03	0.23
All-forms Average	64-83	0.00	0.00	0.00	0.03	0.14	0.17
Estimated Proportion Correctly Classified: Total = 0.73 Proficient & Above = 0.92							
Decision Consistency	0-23	0.03	0.03	0.00	0.00	0.00	0.07
	24-33	0.03	0.09	0.05	0.00	0.00	0.18
	34-51	0.00	0.05	0.24	0.05	0.00	0.34
	52-63	0.00	0.00	0.05	0.13	0.05	0.23
Alternate Form	64-83	0.00	0.00	0.00	0.04	0.13	0.17
Estimated Proportion Correctly Classified: Total = 0.63, Proficient & Above = 0.90							

Table 5.F.5: Reliability of Classification for English-language Arts Grade 5

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-24	0.09	0.03	0.00	0.00	0.00	0.11
	25-33	0.02	0.11	0.03	0.00	0.00	0.16
	34-49	0.00	0.03	0.26	0.03	0.00	0.32
	50-60	0.00	0.00	0.04	0.18	0.03	0.24
All-forms Average	61-75	0.00	0.00	0.00	0.03	0.14	0.16
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.93							
Decision Consistency	0-24	0.08	0.03	0.00	0.00	0.00	0.11
	25-33	0.03	0.09	0.04	0.00	0.00	0.16
	34-49	0.00	0.04	0.24	0.04	0.00	0.32
	50-60	0.00	0.00	0.05	0.15	0.04	0.24
Alternate Form	61-75	0.00	0.00	0.00	0.03	0.13	0.16
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.91							

Table 5.F.6: Reliability of Classification for English-language Arts Grade 6

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-22	0.06	0.03	0.00	0.00	0.00	0.09
	23-32	0.02	0.13	0.04	0.00	0.00	0.19
	33-48	0.00	0.03	0.30	0.03	0.00	0.36
	49-60	0.00	0.00	0.04	0.18	0.02	0.24
All-forms Average	61-75	0.00	0.00	0.00	0.02	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.93							
Decision Consistency	0-22	0.06	0.03	0.00	0.00	0.00	0.09
	23-32	0.03	0.11	0.05	0.00	0.00	0.19
	33-48	0.00	0.05	0.26	0.05	0.00	0.36
	49-60	0.00	0.00	0.05	0.16	0.03	0.24
Alternate Form	61-75	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.68, Proficient & Above = 0.90							

Table 5.F.7: Reliability of Classification for English-language Arts (Reading) Grade 7

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-24	0.09	0.03	0.00	0.00	0.00	0.13
	25-34	0.02	0.13	0.03	0.00	0.00	0.18
	35-49	0.00	0.03	0.26	0.03	0.00	0.32
	50-61	0.00	0.00	0.04	0.19	0.02	0.25
	62-75	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.76, Proficient & Above = 0.93							
Decision Consistency	0-24	0.09	0.04	0.00	0.00	0.00	0.13
	25-34	0.03	0.10	0.04	0.00	0.00	0.18
	35-49	0.00	0.05	0.23	0.05	0.00	0.32
	50-61	0.00	0.00	0.05	0.16	0.03	0.25
	62-75	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.67, Proficient & Above = 0.90							

Table 5.F.8: Reliability of Classification for English-language Arts (Reading & Writing) Grade 7

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-26	0.06	0.03	0.00	0.00	0.00	0.10
	27-37	0.02	0.13	0.04	0.00	0.00	0.18
	38-53	0.00	0.04	0.26	0.04	0.00	0.34
	54-66	0.00	0.00	0.04	0.20	0.02	0.26
	67-83	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.74, Proficient & Above = 0.92							
Decision Consistency	0-26	0.06	0.03	0.00	0.00	0.00	0.10
	27-37	0.03	0.10	0.05	0.00	0.00	0.18
	38-53	0.00	0.05	0.23	0.06	0.00	0.34
	54-66	0.00	0.00	0.06	0.17	0.04	0.26
	67-83	0.00	0.00	0.00	0.04	0.08	0.12
Estimated Proportion Correctly Classified: Total = 0.63, Proficient & Above = 0.88							

Table 5.F.9: Reliability of Classification for English-language Arts Grade 8

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-24	0.08	0.03	0.00	0.00	0.00	0.12
	25-34	0.02	0.14	0.04	0.00	0.00	0.19
	35-49	0.00	0.04	0.29	0.03	0.00	0.36
	50-59	0.00	0.00	0.04	0.16	0.02	0.22
	60-75	0.00	0.00	0.00	0.03	0.08	0.11
Estimated Proportion Correctly Classified: Total = 0.75, Proficient & Above = 0.93							
Decision Consistency	0-24	0.08	0.04	0.00	0.00	0.00	0.12
	25-34	0.03	0.11	0.05	0.00	0.00	0.19
	35-49	0.00	0.05	0.25	0.05	0.00	0.36
	50-59	0.00	0.00	0.05	0.13	0.03	0.22
	60-75	0.00	0.00	0.00	0.03	0.09	0.11
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.90							

Table 5.F.10: Reliability of Classification for English-language Arts Grade 9

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-23	0.10	0.03	0.00	0.00	0.00	0.13
	24-32	0.03	0.12	0.04	0.00	0.00	0.19
	33-47	0.00	0.03	0.25	0.03	0.00	0.31
	48-59	0.00	0.00	0.04	0.19	0.02	0.25
All-forms Average	60-75	0.00	0.00	0.00	0.03	0.10	0.12
Estimated Proportion Correctly Classified: Total = 0.75, Proficient & Above = 0.93							
Decision Consistency	0-23	0.09	0.04	0.00	0.00	0.00	0.13
	24-32	0.04	0.10	0.05	0.00	0.00	0.19
	33-47	0.00	0.04	0.22	0.04	0.00	0.31
	48-59	0.00	0.00	0.05	0.16	0.04	0.25
Alternate Form	60-75	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.91							

Table 5.F.11: Reliability of Classification for English-language Arts Grade 10

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-23	0.10	0.03	0.00	0.00	0.00	0.13
	24-35	0.02	0.16	0.04	0.00	0.00	0.21
	36-51	0.00	0.02	0.27	0.02	0.00	0.30
	52-61	0.00	0.01	0.04	0.14	0.02	0.21
All-forms Average	62-75	0.00	0.00	0.00	0.03	0.11	0.14
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.94							
Decision Consistency	0-23	0.09	0.03	0.01	0.00	0.00	0.13
	24-35	0.03	0.13	0.05	0.00	0.00	0.21
	36-51	0.00	0.03	0.23	0.03	0.00	0.30
	52-61	0.00	0.01	0.05	0.12	0.03	0.21
Alternate Form	62-75	0.00	0.00	0.00	0.03	0.11	0.14
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.92							

Table 5.F.12: Reliability of Classification for English-language Arts Grade 11

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-26	0.15	0.03	0.00	0.00	0.00	0.19
	27-37	0.02	0.14	0.03	0.00	0.00	0.19
	38-51	0.00	0.04	0.23	0.03	0.00	0.30
	52-61	0.00	0.00	0.04	0.16	0.03	0.22
All-forms Average	62-75	0.00	0.00	0.00	0.03	0.07	0.10
Estimated Proportion Correctly Classified: Total = 0.75, Proficient & Above = 0.93							
Decision Consistency	0-26	0.14	0.04	0.01	0.00	0.00	0.19
	27-37	0.03	0.11	0.04	0.00	0.00	0.19
	38-51	0.00	0.05	0.20	0.05	0.00	0.30
	52-61	0.00	0.00	0.05	0.13	0.04	0.22
Alternate Form	62-75	0.00	0.00	0.00	0.03	0.07	0.10
Estimated Proportion Correctly Classified: Total = 0.65, Proficient & Above = 0.90							

Table 5.F.13: Reliability of Classification for History Grade 8

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-22	0.12	0.05	0.00	0.00	0.00	0.18
	23-30	0.04	0.15	0.04	0.00	0.00	0.24
	31-43	0.00	0.05	0.24	0.03	0.00	0.31
	44-55	0.00	0.00	0.04	0.14	0.01	0.19
	56-75	0.00	0.00	0.00	0.02	0.07	0.08
Estimated Proportion Correctly Classified: Total = 0.72, Proficient & Above = 0.93							
Decision Consistency	0-22	0.11	0.06	0.01	0.00	0.00	0.18
	23-30	0.06	0.12	0.06	0.00	0.00	0.24
	31-43	0.01	0.06	0.20	0.04	0.00	0.31
	44-55	0.00	0.00	0.05	0.12	0.02	0.19
	56-75	0.00	0.00	0.00	0.02	0.06	0.08
Estimated Proportion Correctly Classified: Total = 0.62, Proficient & Above = 0.91							
Alternate Form	0-22	0.11	0.06	0.01	0.00	0.00	0.18
	23-30	0.06	0.12	0.06	0.00	0.00	0.24
	31-43	0.01	0.06	0.20	0.04	0.00	0.31
	44-55	0.00	0.00	0.05	0.12	0.02	0.19
	56-75	0.00	0.00	0.00	0.02	0.06	0.08

Table 5.F.14: Reliability of Classification for History Grade 10

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-19	0.20	0.05	0.00	0.00	0.00	0.25
	20-25	0.05	0.11	0.04	0.00	0.00	0.19
	26-36	0.00	0.04	0.21	0.03	0.00	0.28
	37-45	0.00	0.00	0.04	0.12	0.02	0.17
	46-60	0.00	0.00	0.00	0.02	0.08	0.10
Estimated Proportion Correctly Classified: Total = 0.72, Proficient & Above = 0.93							
Decision Consistency	0-19	0.18	0.06	0.01	0.00	0.00	0.25
	20-25	0.06	0.08	0.05	0.00	0.00	0.19
	26-36	0.01	0.05	0.18	0.04	0.00	0.28
	37-45	0.00	0.00	0.04	0.10	0.03	0.17
	46-60	0.00	0.00	0.00	0.02	0.08	0.10
Estimated Proportion Correctly Classified: Total = 0.62, Proficient & Above = 0.92							
Alternate Form	0-19	0.18	0.06	0.01	0.00	0.00	0.25
	20-25	0.06	0.08	0.05	0.00	0.00	0.19
	26-36	0.01	0.05	0.18	0.04	0.00	0.28
	37-45	0.00	0.00	0.04	0.10	0.03	0.17
	46-60	0.00	0.00	0.00	0.02	0.08	0.10

Table 5.F.15: Reliability of Classification for History Grade 11

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.10	0.05	0.00	0.00	0.00	0.15
	18-23	0.04	0.12	0.05	0.00	0.00	0.20
	24-34	0.00	0.05	0.24	0.03	0.00	0.32
	35-44	0.00	0.00	0.04	0.15	0.02	0.21
	45-60	0.00	0.00	0.00	0.02	0.09	0.11
Estimated Proportion Correctly Classified: Total = 0.70, Proficient & Above = 0.93							
Decision Consistency	0-17	0.09	0.05	0.01	0.00	0.00	0.15
	18-23	0.05	0.09	0.06	0.00	0.00	0.20
	24-34	0.01	0.06	0.20	0.05	0.00	0.32
	35-44	0.00	0.00	0.05	0.13	0.03	0.21
	45-60	0.00	0.00	0.00	0.03	0.09	0.11
Estimated Proportion Correctly Classified: Total = 0.59, Proficient & Above = 0.90							
Alternate Form	0-17	0.09	0.05	0.01	0.00	0.00	0.15
	18-23	0.05	0.09	0.06	0.00	0.00	0.20
	24-34	0.01	0.06	0.20	0.05	0.00	0.32
	35-44	0.00	0.00	0.05	0.13	0.03	0.21
	45-60	0.00	0.00	0.00	0.03	0.09	0.11

Table 5.F.16: Reliability of Classification for Mathematics Grade 2

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-23	0.03	0.01	0.00	0.00	0.00	0.05
	24-37	0.01	0.15	0.03	0.00	0.00	0.20
	38-47	0.00	0.03	0.18	0.04	0.00	0.25
	48-56	0.00	0.00	0.04	0.21	0.03	0.28
	57-65	0.00	0.00	0.00	0.04	0.19	0.23
Estimated Proportion Correctly Classified: Total = 0.77, Proficient & Above = 0.92							
All-forms Average	0-23	0.03	0.02	0.00	0.00	0.00	0.05
	24-37	0.02	0.14	0.04	0.00	0.00	0.20
	38-47	0.00	0.04	0.15	0.05	0.00	0.25
	48-56	0.00	0.00	0.05	0.18	0.05	0.28
	57-65	0.00	0.00	0.00	0.05	0.18	0.23
Estimated Proportion Correctly Classified: Total = 0.68, Proficient & Above = 0.90							
Decision Consistency	0-23	0.03	0.02	0.00	0.00	0.00	0.05
	24-37	0.02	0.14	0.04	0.00	0.00	0.20
	38-47	0.00	0.04	0.15	0.05	0.00	0.25
	48-56	0.00	0.00	0.05	0.18	0.05	0.28
	57-65	0.00	0.00	0.00	0.05	0.18	0.23
Estimated Proportion Correctly Classified: Total = 0.68, Proficient & Above = 0.90							
Alternate Form	0-23	0.03	0.02	0.00	0.00	0.00	0.05
	24-37	0.02	0.14	0.04	0.00	0.00	0.20
	38-47	0.00	0.04	0.15	0.05	0.00	0.25
	48-56	0.00	0.00	0.05	0.18	0.05	0.28
	57-65	0.00	0.00	0.00	0.05	0.18	0.23
Estimated Proportion Correctly Classified: Total = 0.68, Proficient & Above = 0.90							

Table 5.F.17: Reliability of Classification for Mathematics Grade 3

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.02	0.02	0.00	0.00	0.00	0.04
	18-31	0.01	0.18	0.03	0.00	0.00	0.23
	32-43	0.00	0.03	0.20	0.03	0.00	0.25
	44-54	0.00	0.00	0.04	0.21	0.03	0.27
	55-65	0.00	0.00	0.00	0.03	0.18	0.21
Estimated Proportion Correctly Classified: Total = 0.79, Proficient & Above = 0.93							
All-forms Average	0-17	0.02	0.02	0.00	0.00	0.00	0.04
	18-31	0.02	0.16	0.04	0.00	0.00	0.23
	32-43	0.00	0.04	0.17	0.04	0.00	0.25
	44-54	0.00	0.00	0.05	0.18	0.04	0.27
	55-65	0.00	0.00	0.00	0.04	0.18	0.21
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							
Decision Consistency	0-17	0.02	0.02	0.00	0.00	0.00	0.04
	18-31	0.02	0.16	0.04	0.00	0.00	0.23
	32-43	0.00	0.04	0.17	0.04	0.00	0.25
	44-54	0.00	0.00	0.05	0.18	0.04	0.27
	55-65	0.00	0.00	0.00	0.04	0.18	0.21
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							
Alternate Form	0-17	0.02	0.02	0.00	0.00	0.00	0.04
	18-31	0.02	0.16	0.04	0.00	0.00	0.23
	32-43	0.00	0.04	0.17	0.04	0.00	0.25
	44-54	0.00	0.00	0.05	0.18	0.04	0.27
	55-65	0.00	0.00	0.00	0.04	0.18	0.21
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							

Table 5.F.18: Reliability of Classification for Mathematics Grade 4

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-16	0.02	0.01	0.00	0.00	0.00	0.03
	17-30	0.01	0.18	0.04	0.01	0.00	0.24
	31-44	0.00	0.02	0.24	0.02	0.00	0.28
	45-55	0.00	0.00	0.04	0.20	0.02	0.27
	56-65	0.00	0.00	0.00	0.03	0.15	0.18
Estimated Proportion Correctly Classified: Total = 0.79, Proficient & Above = 0.94							
All-forms Average	0-16	0.02	0.01	0.00	0.00	0.00	0.03
	17-30	0.02	0.16	0.05	0.01	0.00	0.24
	31-44	0.00	0.04	0.21	0.04	0.00	0.28
	45-55	0.00	0.00	0.05	0.18	0.04	0.27
	56-65	0.00	0.00	0.00	0.04	0.14	0.18
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							
Decision Consistency	0-16	0.02	0.01	0.00	0.00	0.00	0.03
	17-30	0.02	0.16	0.05	0.01	0.00	0.24
	31-44	0.00	0.04	0.21	0.04	0.00	0.28
	45-55	0.00	0.00	0.05	0.18	0.04	0.27
	56-65	0.00	0.00	0.00	0.04	0.14	0.18
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							
Alternate Form	0-16	0.02	0.01	0.00	0.00	0.00	0.03
	17-30	0.02	0.16	0.05	0.01	0.00	0.24
	31-44	0.00	0.04	0.21	0.04	0.00	0.28
	45-55	0.00	0.00	0.05	0.18	0.04	0.27
	56-65	0.00	0.00	0.00	0.04	0.14	0.18
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.91							

Table 5.F.19: Reliability of Classification for Mathematics Grade 5

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-19	0.06	0.03	0.00	0.00	0.00	0.10
	20-29	0.03	0.19	0.04	0.00	0.00	0.25
	30-40	0.00	0.04	0.20	0.03	0.00	0.27
	41-53	0.00	0.00	0.04	0.21	0.01	0.26
	54-65	0.00	0.00	0.00	0.02	0.10	0.12
Estimated Proportion Correctly Classified: Total = 0.76, Proficient & Above = 0.93							
Decision Consistency	0-19	0.06	0.04	0.00	0.00	0.00	0.10
	20-29	0.04	0.16	0.05	0.00	0.00	0.25
	30-40	0.00	0.05	0.17	0.05	0.00	0.27
	41-53	0.00	0.00	0.05	0.19	0.03	0.26
	54-65	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.90							
Alternate Form	0-19	0.06	0.04	0.00	0.00	0.00	0.10
	20-29	0.04	0.16	0.05	0.00	0.00	0.25
	30-40	0.00	0.05	0.17	0.05	0.00	0.27
	41-53	0.00	0.00	0.05	0.19	0.03	0.26
	54-65	0.00	0.00	0.00	0.03	0.09	0.12

Table 5.F.20: Reliability of Classification for Mathematics Grade 6

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-16	0.01	0.05	0.00	0.00	0.00	0.06
	17-26	0.01	0.22	0.04	0.00	0.00	0.28
	27-39	0.00	0.04	0.24	0.03	0.00	0.31
	40-52	0.00	0.00	0.03	0.19	0.01	0.23
	53-65	0.00	0.00	0.00	0.02	0.10	0.12
Estimated Proportion Correctly Classified: Total = 0.76, Proficient & Above = 0.94							
Decision Consistency	0-16	0.02	0.04	0.00	0.00	0.00	0.06
	17-26	0.04	0.18	0.06	0.00	0.00	0.28
	27-39	0.00	0.06	0.21	0.04	0.00	0.31
	40-52	0.00	0.00	0.04	0.17	0.02	0.23
	53-65	0.00	0.00	0.00	0.02	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.67, Proficient & Above = 0.92							
Alternate Form	0-16	0.02	0.04	0.00	0.00	0.00	0.06
	17-26	0.04	0.18	0.06	0.00	0.00	0.28
	27-39	0.00	0.06	0.21	0.04	0.00	0.31
	40-52	0.00	0.00	0.04	0.17	0.02	0.23
	53-65	0.00	0.00	0.00	0.02	0.09	0.12

Table 5.F.21: Reliability of Classification for Mathematics Grade 7

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-18	0.06	0.04	0.00	0.00	0.00	0.10
	19-28	0.03	0.20	0.04	0.00	0.00	0.27
	29-40	0.00	0.04	0.23	0.03	0.00	0.30
	41-52	0.00	0.00	0.04	0.17	0.01	0.23
	53-65	0.00	0.00	0.00	0.02	0.08	0.10
Estimated Proportion Correctly Classified: Total = 0.74, Proficient & Above = 0.93							
Decision Consistency	0-18	0.06	0.05	0.00	0.00	0.00	0.10
	19-28	0.05	0.16	0.06	0.00	0.00	0.27
	29-40	0.00	0.06	0.19	0.05	0.00	0.30
	41-52	0.00	0.00	0.05	0.15	0.03	0.23
	53-65	0.00	0.00	0.00	0.02	0.08	0.10
Estimated Proportion Correctly Classified: Total = 0.64, Proficient & Above = 0.90							
Alternate Form	0-18	0.06	0.05	0.00	0.00	0.00	0.10
	19-28	0.05	0.16	0.06	0.00	0.00	0.27
	29-40	0.00	0.06	0.19	0.05	0.00	0.30
	41-52	0.00	0.00	0.05	0.15	0.03	0.23
	53-65	0.00	0.00	0.00	0.02	0.08	0.10

Table 5.F.22: Reliability of Classification for General Mathematics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-19	0.13	0.05	0.00	0.00	0.00	0.18
	20-28	0.04	0.21	0.04	0.00	0.00	0.30
	29-40	0.00	0.05	0.24	0.03	0.00	0.32
	41-52	0.00	0.00	0.04	0.13	0.01	0.17
	53-65	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.73, Proficient & Above = 0.93							
Decision Consistency	0-19	0.11	0.07	0.00	0.00	0.00	0.18
	20-28	0.06	0.17	0.06	0.00	0.00	0.30
	29-40	0.00	0.07	0.21	0.04	0.00	0.32
	41-52	0.00	0.00	0.04	0.11	0.01	0.17
	53-65	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.62, Proficient & Above = 0.92							
Alternate Form	0-19	0.11	0.07	0.00	0.00	0.00	0.18
	20-28	0.06	0.17	0.06	0.00	0.00	0.30
	29-40	0.00	0.07	0.21	0.04	0.00	0.32
	41-52	0.00	0.00	0.04	0.11	0.01	0.17
	53-65	0.00	0.00	0.00	0.01	0.02	0.03

Table 5.F.23: Reliability of Classification for Algebra I

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-16	0.00	0.13	0.00	0.00	0.00	0.13
	17-25	0.00	0.38	0.04	0.00	0.00	0.43
	26-35	0.00	0.07	0.17	0.02	0.00	0.26
	36-50	0.00	0.00	0.03	0.12	0.00	0.15
	51-65	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.95							
Decision Consistency	0-16	0.04	0.08	0.01	0.00	0.00	0.13
	17-25	0.08	0.28	0.07	0.00	0.00	0.43
	26-35	0.01	0.07	0.14	0.04	0.00	0.26
	36-50	0.00	0.00	0.04	0.11	0.01	0.15
	51-65	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.59, Proficient & Above = 0.92							
Alternate Form	0-16	0.04	0.08	0.01	0.00	0.00	0.13
	17-25	0.08	0.28	0.07	0.00	0.00	0.43
	26-35	0.01	0.07	0.14	0.04	0.00	0.26
	36-50	0.00	0.00	0.04	0.11	0.01	0.15
	51-65	0.00	0.00	0.00	0.01	0.02	0.03

Table 5.F.24: Reliability of Classification for Geometry

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-15	0.00	0.08	0.00	0.00	0.00	0.08
	16-24	0.00	0.33	0.04	0.00	0.00	0.37
	25-35	0.00	0.07	0.21	0.03	0.00	0.31
	36-49	0.00	0.00	0.03	0.14	0.01	0.18
	50-65	0.00	0.00	0.00	0.01	0.05	0.06
Estimated Proportion Correctly Classified: Total = 0.73, Proficient & Above = 0.94							
Decision Consistency	0-15	0.02	0.06	0.01	0.00	0.00	0.08
	16-24	0.05	0.25	0.07	0.00	0.00	0.37
	25-35	0.01	0.08	0.18	0.04	0.00	0.31
	36-49	0.00	0.00	0.04	0.13	0.01	0.18
	50-65	0.00	0.00	0.00	0.02	0.05	0.06
Estimated Proportion Correctly Classified: Total = 0.63, Proficient & Above = 0.92							
Alternate Form	0-15	0.02	0.06	0.01	0.00	0.00	0.08
	16-24	0.05	0.25	0.07	0.00	0.00	0.37
	25-35	0.01	0.08	0.18	0.04	0.00	0.31
	36-49	0.00	0.00	0.04	0.13	0.01	0.18
	50-65	0.00	0.00	0.00	0.02	0.05	0.06

Table 5.F.25: Reliability of Classification for Algebra II

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-19	0.10	0.05	0.00	0.00	0.00	0.16
	20-28	0.04	0.22	0.05	0.00	0.00	0.31
	29-39	0.00	0.05	0.22	0.03	0.00	0.30
	40-51	0.00	0.00	0.03	0.14	0.01	0.18
	52-64	0.00	0.00	0.00	0.01	0.04	0.06
Estimated Proportion Correctly Classified: Total = 0.72, Proficient & Above = 0.94							
Decision Consistency	0-19	0.09	0.06	0.00	0.00	0.00	0.16
	20-28	0.06	0.18	0.06	0.00	0.00	0.31
	29-39	0.00	0.07	0.18	0.04	0.00	0.30
	40-51	0.00	0.00	0.04	0.12	0.02	0.18
	52-64	0.00	0.00	0.00	0.02	0.04	0.06
Estimated Proportion Correctly Classified: Total = 0.62, Proficient & Above = 0.92							
Alternate Form	0-19	0.09	0.06	0.00	0.00	0.00	0.16
	20-28	0.06	0.18	0.06	0.00	0.00	0.31
	29-39	0.00	0.07	0.18	0.04	0.00	0.30
	40-51	0.00	0.00	0.04	0.12	0.02	0.18
	52-64	0.00	0.00	0.00	0.02	0.04	0.06

Table 5.F.26: Reliability of Classification for High School Mathematics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-21	0.04	0.02	0.00	0.00	0.00	0.06
	22-35	0.01	0.19	0.04	0.00	0.00	0.24
	36-46	0.00	0.03	0.22	0.04	0.00	0.29
	47-57	0.00	0.00	0.04	0.24	0.02	0.29
	58-65	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.78, Proficient & Above = 0.92							
Decision Consistency	0-21	0.03	0.02	0.00	0.00	0.00	0.06
	22-35	0.02	0.17	0.05	0.00	0.00	0.24
	36-46	0.00	0.05	0.19	0.05	0.00	0.29
	47-57	0.00	0.00	0.05	0.20	0.03	0.29
	58-65	0.00	0.00	0.00	0.03	0.09	0.12
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.90							
Alternate Form	0-21	0.03	0.02	0.00	0.00	0.00	0.06
	22-35	0.02	0.17	0.05	0.00	0.00	0.24
	36-46	0.00	0.05	0.19	0.05	0.00	0.29
	47-57	0.00	0.00	0.05	0.20	0.03	0.29
	58-65	0.00	0.00	0.00	0.03	0.09	0.12

Table 5.F.27: Reliability of Classification for Integrated Mathematics I

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.17	0.12	0.00	0.00	0.00	0.29
	18-26	0.12	0.32	0.03	0.00	0.00	0.46
	27-36	0.00	0.05	0.11	0.01	0.00	0.18
	37-49	0.00	0.00	0.01	0.04	0.00	0.06
	50-65	0.00	0.00	0.00	0.00	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.65, Proficient & Above = 0.98							
Decision Consistency	0-17	0.14	0.14	0.01	0.00	0.00	0.29
	18-26	0.14	0.27	0.05	0.00	0.00	0.46
	27-36	0.01	0.06	0.10	0.02	0.00	0.18
	37-49	0.00	0.00	0.02	0.04	0.00	0.06
	50-65	0.00	0.00	0.00	0.00	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.55, Proficient & Above = 0.96							
Alternate Form	0-17	0.14	0.14	0.01	0.00	0.00	0.29
	18-26	0.14	0.27	0.05	0.00	0.00	0.46
	27-36	0.01	0.06	0.10	0.02	0.00	0.18
	37-49	0.00	0.00	0.02	0.04	0.00	0.06
	50-65	0.00	0.00	0.00	0.00	0.01	0.01

Table 5.F.28: Reliability of Classification for Integrated Mathematics II

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-15	0.00	0.10	0.01	0.00	0.00	0.11
	16-22	0.00	0.31	0.04	0.00	0.00	0.35
	23-31	0.00	0.10	0.20	0.03	0.00	0.33
	32-43	0.00	0.00	0.04	0.12	0.01	0.16
	44-65	0.00	0.00	0.00	0.01	0.04	0.05
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.93							
Decision Consistency	0-15	0.03	0.07	0.02	0.00	0.00	0.11
	16-22	0.06	0.21	0.08	0.00	0.00	0.35
	23-31	0.02	0.10	0.16	0.05	0.00	0.33
	32-43	0.00	0.00	0.04	0.10	0.01	0.16
	44-65	0.00	0.00	0.00	0.01	0.04	0.05
Estimated Proportion Correctly Classified: Total = 0.55, Proficient & Above = 0.91							
Alternate Form	0-15	0.03	0.07	0.02	0.00	0.00	0.11
	16-22	0.06	0.21	0.08	0.00	0.00	0.35
	23-31	0.02	0.10	0.16	0.05	0.00	0.33
	32-43	0.00	0.00	0.04	0.10	0.01	0.16
	44-65	0.00	0.00	0.00	0.01	0.04	0.05

Table 5.F.29: Reliability of Classification for Integrated Mathematics III

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.03	0.06	0.00	0.00	0.00	0.10
	18-25	0.02	0.22	0.05	0.00	0.00	0.28
	26-35	0.00	0.07	0.24	0.04	0.00	0.35
	36-48	0.00	0.00	0.04	0.17	0.01	0.21
	49-64	0.00	0.00	0.00	0.02	0.04	0.06
Estimated Proportion Correctly Classified: Total = 0.70, Proficient & Above = 0.92							
Decision Consistency	0-17	0.04	0.05	0.00	0.00	0.00	0.10
	18-25	0.05	0.17	0.07	0.00	0.00	0.28
	26-35	0.01	0.08	0.20	0.06	0.00	0.35
	36-48	0.00	0.00	0.05	0.15	0.01	0.21
	49-64	0.00	0.00	0.00	0.02	0.04	0.06
Estimated Proportion Correctly Classified: Total = 0.59, Proficient & Above = 0.89							
Alternate Form	0-17	0.04	0.05	0.00	0.00	0.00	0.10
	18-25	0.05	0.17	0.07	0.00	0.00	0.28
	26-35	0.01	0.08	0.20	0.06	0.00	0.35
	36-48	0.00	0.00	0.05	0.15	0.01	0.21
	49-64	0.00	0.00	0.00	0.02	0.04	0.06

Table 5.F.30: Reliability of Classification for Grade 5 Science

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-16	0.05	0.05	0.00	0.00	0.00	0.10
	17-23	0.02	0.17	0.06	0.00	0.00	0.25
	24-35	0.00	0.06	0.32	0.03	0.00	0.41
	36-47	0.00	0.00	0.05	0.15	0.01	0.21
	48-60	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.92							
Decision Consistency	0-16	0.05	0.05	0.01	0.00	0.00	0.10
	17-23	0.05	0.13	0.08	0.00	0.00	0.25
	24-35	0.01	0.07	0.28	0.05	0.00	0.41
	36-47	0.00	0.00	0.06	0.14	0.01	0.21
	48-60	0.00	0.00	0.00	0.01	0.02	0.03
Estimated Proportion Correctly Classified: Total = 0.60, Proficient & Above = 0.89							
Alternate Form	0-16	0.05	0.05	0.01	0.00	0.00	0.10
	17-23	0.05	0.13	0.08	0.00	0.00	0.25
	24-35	0.01	0.07	0.28	0.05	0.00	0.41
	36-47	0.00	0.00	0.06	0.14	0.01	0.21
	48-60	0.00	0.00	0.00	0.01	0.02	0.03

Table 5.F.31: Reliability of Classification for Biology

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.07	0.04	0.00	0.00	0.00	0.11
	18-23	0.03	0.10	0.05	0.00	0.00	0.18
	24-37	0.00	0.04	0.34	0.03	0.00	0.41
	38-47	0.00	0.00	0.04	0.16	0.02	0.22
	48-60	0.00	0.00	0.00	0.02	0.06	0.08
Estimated Proportion Correctly Classified: Total = 0.73, Proficient & Above = 0.93							
Decision Consistency	0-17	0.06	0.04	0.01	0.00	0.00	0.11
	18-23	0.04	0.08	0.06	0.00	0.00	0.18
	24-37	0.01	0.05	0.30	0.05	0.00	0.41
	38-47	0.00	0.00	0.05	0.14	0.03	0.22
	48-60	0.00	0.00	0.00	0.02	0.06	0.08
Estimated Proportion Correctly Classified: Total = 0.63, Proficient & Above = 0.90							
Alternate Form	0-17	0.06	0.04	0.01	0.00	0.00	0.11
	18-23	0.04	0.08	0.06	0.00	0.00	0.18
	24-37	0.01	0.05	0.30	0.05	0.00	0.41
	38-47	0.00	0.00	0.05	0.14	0.03	0.22
	48-60	0.00	0.00	0.00	0.02	0.06	0.08

Table 5.F.32: Reliability of Classification for Chemistry

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.07	0.05	0.00	0.00	0.00	0.12
	18-23	0.03	0.11	0.05	0.00	0.00	0.19
	24-37	0.00	0.05	0.33	0.03	0.00	0.41
	38-48	0.00	0.00	0.04	0.15	0.01	0.21
	49-60	0.00	0.00	0.00	0.02	0.06	0.08
Estimated Proportion Correctly Classified: Total = 0.72, Proficient & Above = 0.93							
Decision Consistency	0-17	0.06	0.04	0.01	0.00	0.00	0.12
	18-23	0.05	0.08	0.06	0.00	0.00	0.19
	24-37	0.01	0.06	0.29	0.05	0.00	0.41
	38-48	0.00	0.00	0.05	0.13	0.02	0.21
	49-60	0.00	0.00	0.00	0.02	0.05	0.08
Estimated Proportion Correctly Classified: Total = 0.63, Proficient & Above = 0.90							
Alternate Form	0-17	0.06	0.04	0.01	0.00	0.00	0.12
	18-23	0.05	0.08	0.06	0.00	0.00	0.19
	24-37	0.01	0.06	0.29	0.05	0.00	0.41
	38-48	0.00	0.00	0.05	0.13	0.02	0.21
	49-60	0.00	0.00	0.00	0.02	0.05	0.08

Table 5.F.33: Reliability of Classification for Earth Science

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.13	0.06	0.00	0.00	0.00	0.19
	18-23	0.05	0.12	0.04	0.00	0.00	0.22
	24-37	0.00	0.05	0.29	0.03	0.00	0.37
	38-47	0.00	0.00	0.04	0.12	0.01	0.17
	48-60	0.00	0.00	0.00	0.02	0.03	0.05
Estimated Proportion Correctly Classified: Total = 0.70, Proficient & Above = 0.93							
Decision Consistency	0-17	0.11	0.07	0.01	0.00	0.00	0.19
	18-23	0.07	0.09	0.06	0.00	0.00	0.22
	24-37	0.01	0.06	0.26	0.04	0.00	0.37
	38-47	0.00	0.00	0.04	0.11	0.02	0.17
	48-60	0.00	0.00	0.00	0.02	0.03	0.05
Estimated Proportion Correctly Classified: Total = 0.60, Proficient & Above = 0.92							
Alternate Form	0-17	0.11	0.07	0.01	0.00	0.00	0.19
	18-23	0.07	0.09	0.06	0.00	0.00	0.22
	24-37	0.01	0.06	0.26	0.04	0.00	0.37
	38-47	0.00	0.00	0.04	0.11	0.02	0.17
	48-60	0.00	0.00	0.00	0.02	0.03	0.05

Table 5.F.34: Reliability of Classification for Physics

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-18	0.13	0.04	0.00	0.00	0.00	0.18
	19-24	0.04	0.10	0.04	0.00	0.00	0.18
	25-38	0.00	0.04	0.28	0.03	0.00	0.34
	39-48	0.00	0.00	0.03	0.15	0.02	0.20
	49-60	0.00	0.00	0.00	0.02	0.07	0.09
Estimated Proportion Correctly Classified: Total = 0.73, Proficient & Above = 0.94							
Decision Consistency	0-18	0.12	0.05	0.01	0.00	0.00	0.18
	19-24	0.05	0.08	0.05	0.00	0.00	0.18
	25-38	0.01	0.05	0.25	0.04	0.00	0.34
	39-48	0.00	0.00	0.04	0.13	0.03	0.20
	49-60	0.00	0.00	0.00	0.02	0.07	0.09
Estimated Proportion Correctly Classified: Total = 0.64, Proficient & Above = 0.92							
Alternate Form	0-18	0.12	0.05	0.01	0.00	0.00	0.18
	19-24	0.05	0.08	0.05	0.00	0.00	0.18
	25-38	0.01	0.05	0.25	0.04	0.00	0.34
	39-48	0.00	0.00	0.04	0.13	0.03	0.20
	49-60	0.00	0.00	0.00	0.02	0.07	0.09

Table 5.F.35: Reliability of Classification for Integrated Science I

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.19	0.08	0.00	0.00	0.00	0.27
	18-24	0.07	0.22	0.05	0.00	0.00	0.33
	25-38	0.00	0.07	0.26	0.01	0.00	0.34
	39-48	0.00	0.00	0.02	0.03	0.00	0.05
	49-60	0.00	0.00	0.00	0.00	0.00	0.00
Estimated Proportion Correctly Classified: Total = 0.70, Proficient & Above = 0.97							
Decision Consistency	0-17	0.17	0.09	0.01	0.00	0.00	0.27
	18-24	0.09	0.17	0.07	0.00	0.00	0.33
	25-38	0.01	0.08	0.23	0.02	0.00	0.34
	39-48	0.00	0.00	0.02	0.03	0.00	0.05
	49-60	0.00	0.00	0.00	0.00	0.00	0.00
Estimated Proportion Correctly Classified: Total = 0.60, Proficient & Above = 0.96							
Alternate Form	0-17	0.17	0.09	0.01	0.00	0.00	0.27
	18-24	0.09	0.17	0.07	0.00	0.00	0.33
	25-38	0.01	0.08	0.23	0.02	0.00	0.34
	39-48	0.00	0.00	0.02	0.03	0.00	0.05
	49-60	0.00	0.00	0.00	0.00	0.00	0.00

Table 5.F.36: Reliability of Classification for Integrated Science II

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-17	0.18	0.08	0.00	0.00	0.00	0.26
	18-23	0.06	0.17	0.05	0.00	0.00	0.28
	24-37	0.00	0.07	0.29	0.01	0.00	0.37
	38-47	0.00	0.00	0.02	0.05	0.00	0.07
	48-60	0.00	0.00	0.00	0.01	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.69, Proficient & Above = 0.97							
Decision Consistency	0-17	0.16	0.09	0.02	0.00	0.00	0.26
	18-23	0.08	0.13	0.07	0.00	0.00	0.28
	24-37	0.02	0.07	0.26	0.03	0.00	0.37
	38-47	0.00	0.00	0.03	0.04	0.00	0.07
	48-60	0.00	0.00	0.00	0.01	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.59, Proficient & Above = 0.94							
Alternate Form	0-17	0.16	0.09	0.02	0.00	0.00	0.26
	18-23	0.08	0.13	0.07	0.00	0.00	0.28
	24-37	0.02	0.07	0.26	0.03	0.00	0.37
	38-47	0.00	0.00	0.03	0.04	0.00	0.07
	48-60	0.00	0.00	0.00	0.01	0.01	0.01

Table 5.F.37: Reliability of Classification for Integrated Science III

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-14	0.00	0.14	0.00	0.00	0.00	0.14
	15-20	0.00	0.30	0.06	0.00	0.00	0.36
	21-34	0.00	0.10	0.31	0.01	0.00	0.42
	35-45	0.00	0.00	0.02	0.04	0.00	0.07
	46-60	0.00	0.00	0.00	0.00	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.66, Proficient & Above = 0.97							
Decision Consistency	0-14	0.04	0.08	0.02	0.00	0.00	0.14
	15-20	0.08	0.19	0.10	0.00	0.00	0.36
	21-34	0.02	0.10	0.28	0.03	0.00	0.42
	35-45	0.00	0.00	0.02	0.04	0.00	0.07
	46-60	0.00	0.00	0.00	0.00	0.01	0.01
Estimated Proportion Correctly Classified: Total = 0.55, Proficient & Above = 0.95							
Alternate Form	0-14	0.04	0.08	0.02	0.00	0.00	0.14
	15-20	0.08	0.19	0.10	0.00	0.00	0.36
	21-34	0.02	0.10	0.28	0.03	0.00	0.42
	35-45	0.00	0.00	0.02	0.04	0.00	0.07
	46-60	0.00	0.00	0.00	0.00	0.01	0.01

Table 5.F.38: Reliability of Classification for Integrated Science IV

	Placement Score	Far Below Basic	Below Basic	Basic	Proficient	Advanced	Category Total
Decision Accuracy	0-18	0.16	0.07	0.00	0.00	0.00	0.23
	19-24	0.05	0.16	0.06	0.00	0.00	0.28
	25-38	0.00	0.06	0.33	0.01	0.00	0.40
	39-48	0.00	0.00	0.03	0.05	0.00	0.08
	49-60	0.00	0.00	0.00	0.00	0.00	0.00
Estimated Proportion Correctly Classified: Total = 0.71, Proficient & Above = 0.96							
Decision Consistency	0-18	0.14	0.07	0.01	0.00	0.00	0.23
	19-24	0.07	0.12	0.08	0.00	0.00	0.28
	25-38	0.01	0.07	0.29	0.03	0.00	0.40
	39-48	0.00	0.00	0.03	0.05	0.00	0.08
	49-60	0.00	0.00	0.00	0.00	0.00	0.00
Estimated Proportion Correctly Classified: Total = 0.61, Proficient & Above = 0.94							
Alternate Form	0-18	0.14	0.07	0.01	0.00	0.00	0.23
	19-24	0.07	0.12	0.08	0.00	0.00	0.28
	25-38	0.01	0.07	0.29	0.03	0.00	0.40
	39-48	0.00	0.00	0.03	0.05	0.00	0.08
	49-60	0.00	0.00	0.00	0.00	0.00	0.00

Chapter 6: Historical Comparisons

This chapter presents historical comparisons of various statistical indicators depicting the examinee and test characteristics of CSTs over a period of three years. The comparisons of examinee performance included mean and standard deviation of scaled scores, observed score ranges, and the percentage of examinees classified into proficient and advanced categories. The test quality was compared by looking at the mean proportion correct, overall reliability and SEM as well as mean IRT b-value for each test. Most of the analyses reported in this chapter were calculated on the data files that were used for final reporting. The mean IRT b-values were calculated on smaller equating samples.

Examinee Performance

The number of examinees taking various CSTs across three years is presented in Table 6.A.1. The table also presents mean scaled scores and the standard deviation of scaled scores for each test over the same period of time. The examinee population taking CSTs has increased substantially for most of the higher level tests and moderately for low to middle level tests. For grades 2 and 3, the numbers decreased by a small percentage in the current administration for both ELA and Math tests. General Math exhibited a consistent shrinkage in the examinee population; the numbers were reduced from 449,084 in 2002 to 406,992 in 2004.

The mean scaled scores are presented in Table 6.A.1, and indicate mixed results across time. The percentages of students qualifying for the proficient and advanced categories are presented in Table 6.A.2. Students attain one of five levels of performance on the CSTs for each subject tested: advanced, proficient, basic, below basic, and far below basic. The State Board of Education has established the proficient level as the desired achievement goal for all students. This goal for all students is consistent with school growth targets for state accountability and the new federal requirements under the No Child Left Behind (NCLB) Act.

Table 6.A.3 presents the observed score ranges obtained on all tests for the three years. As shown in the table, the CST scaled scores could extend as high as 752 and as low as 0 in years prior to 2003. The policy of setting the highest possible raw score to 600 and the lowest possible score to 150 was introduced by the CDE prior to the 2003 administration. This scale truncation affected very few students. Tables 6.A.4 to 6.A.11 show the score distributions for each test across time. On all 35 CSTs, an examinee is required to obtain a score of 350 or higher to be classified as proficient.

Test Characteristics

The results of CSTs over past several years indicate that the CSTs meet the technical criteria established in professional standards for high-stakes tests. However, efforts are consistently being made to improve the technical quality of the test every year that it is administered. For example, over the past few years, differences between the difficulty levels of the field-test items and the operational items for some tests remained an issue of concern. Efforts have been made to increase the development of easier items to compensate for the relatively large numbers of

field-test items at the high end of the difficulty scale. The benefits of this initiative were observed in the results obtained on CSTs during current administration. Table 6.B.1 and 6.B.2 respectively present the average proportion correct and the mean IRT b-value⁸ for each CST across three years.

In 2002, the reliabilities of the CSTs were generally higher for ELA and Mathematics and lower for Science and History-Social Science. These lower reliabilities may have occurred because item pool shortages necessitated the inclusion of less highly discriminating items. Hence efforts were made to field-test larger number of items in 2003 to provide additional items in order to improve the reliabilities of these tests. Table 6.B.3 exhibits an increase in the reliability of Science and History-Social Science tests in recent years. In addition, the reliabilities of end-of-course Math tests were also higher in recent years compared to 2002. The reliabilities of the grade specific Math tests remained consistently high across the three years.

In the case of English-language Arts, several content revisions occurred prior to 2003 administration: Stanford 9 items were no longer included and new CST test blueprints were established. In spite of the fact that beginning from 2003, the ELA CSTs have been shortened from 90 to 75 items, these tests had the highest reliabilities, ranging from 0.92 to 0.94 across all grades over time.

In addition, prior to 2003 administration, the Grade 9 History-Social Science CST was discontinued and a new Grade 8 History-Social Science CST was developed. This test has shown a consistent increase in the reliability over time.

References

Educational Testing Service. (2002). STAR Technical Report, Spring 2002 administration. Princeton, NJ: Educational Testing Service.

Educational Testing Service. (2003). STAR Technical Report, Spring 2003 administration. Princeton, NJ: Educational Testing Service.

⁸ Comparisons of mean b-values should only be made within a given test.

Appendix 6.A

Table 6.A.1: Number of Examinees Tested, Scaled Score Means and Standard Deviations of CSTs across 2002, 2003 & 2004

Subject	Test	Number of Examinees (valid scores)			Scaled Score Mean and Standard Deviation							
					2002		2003		2004		2002	
		2002	2003	2004	Mean	Stdev.	2002	2003	2004	Mean	Stdev.	2002
<i>ELA</i>	2	456,769	475,958	472,591	324	57	332	56	330	59		
	3	461,882	481,246	480,611	324	62	324	61	322	60		
	4	438,659	475,575	481,030	333	51	339	50	339	52		
	5	465,668	473,745	482,859	328	46	332	47	338	54		
	6	465,927	479,861	480,290	323	49	332	52	333	51		
	7	421,597	477,359	484,682	323	54	330	52	332	55		
	8	432,650	456,264	487,417	323	52	324	50	328	52		
	9	435,728	470,879	485,694	321	56	333	55	331	56		
	10	390,680	416,277	446,091	322	55	324	52	328	56		
	11	336,026	357,365	384,229	320	60	321	61	320	60		
<i>History</i>	8	N/A	455,348	482,505	N/A	N/A	321	46	319	52		
	10	396,419	408,196	439,011	315	56	317	58	318	60		
	11	340,923	349,843	377,819	328	60	329	57	326	59		
<i>Math</i>	2	475,430	478,715	475,179	343	78	357	77	358	79		
	3	471,426	484,064	483,304	332	71	344	74	353	77		
	4	466,272	483,007	487,766	332	62	344	67	343	64		
	5	472,412	475,808	484,724	323	67	332	74	336	76		
	6	472,962	481,069	480,879	328	64	331	62	335	63		
	7	447,719	482,393	488,074	320	57	325	58	328	64		
	General Math	449,084	438,427	406,992	302	45	306	52	306	50		
	Algebra I	422,233	495,719	603,559	312	58	309	57	305	54		
	Geometry	240,503	266,905	298,372	317	62	317	59	314	58		
	Algebra II	148,314	161,177	180,865	318	56	318	65	312	60		
	High School Math	70,590	75,099	80,062	329	81	331	87	341	72		
	Integrated Math I	24,084	13,897	9,401	279	47	278	45	278	46		
	Integrated Math II	24,754	9,563	7,875	317	52	324	51	315	55		
	Integrated Math III	15,388	10,029	4,408	306	59	301	64	321	64		
<i>Science</i>	Grade 5 Science	N/A	N/A	483,931	N/A	N/A	N/A	N/A	318	44		
	Biology	298,475	329,729	394,912	333	48	333	48	330	45		
	Chemistry	144,933	152,205	180,379	328	44	330	47	326	46		
	Earth Science	80,096	88,407	133,741	314	43	316	40	315	43		
	Physics	41,760	44,429	52,103	321	49	325	48	323	49		
	Integrated Science I	38,989	61,146	100,861	301	34	298	31	294	32		
	Integrated Science II	25,470	25,546	24,461	304	30	298	35	299	35		
	Integrated Science III	57,086	10,317	5,852	294	26	298	31	302	30		
	Integrated Science IV	16,459	1,498	1,576	291	29	297	39	301	33		

Table 6.A.2: Percentage of Proficient & Above and Percentage of Advanced across 2002, 2003 & 2004

Subject	Test	% Proficient & Above			% Advanced		
		2002	2003	2004	2002	2003	2004
<i>ELA</i>	2	32%	37%	36%	9%	12%	13%
	3	34%	34%	31%	11%	11%	9%
	4	36%	40%	40%	14%	16%	17%
	5	30%	36%	40%	9%	10%	16%
	6	30%	36%	36%	9%	13%	12%
	7	33%	37%	38%	7%	10%	12%
	8	32%	32%	33%	10%	9%	11%
	9	32%	38%	37%	11%	14%	12%
	10	33%	33%	35%	12%	11%	14%
	11	31%	32%	32%	11%	11%	10%
<i>History</i>	8	N/A	27%	27%	N/A	6%	8%
	10	24%	27%	27%	8%	10%	10%
	11	32%	34%	32%	12%	12%	11%
<i>Math</i>	2	43%	53%	51%	16%	24%	23%
	3	38%	46%	48%	12%	19%	21%
	4	37%	46%	45%	13%	18%	18%
	5	30%	35%	38%	7%	10%	12%
	6	33%	35%	35%	10%	10%	12%
	7	29%	30%	33%	6%	7%	10%
	General Math	17%	20%	20%	1%	2%	3%
	Algebra I	22%	22%	18%	4%	4%	3%
	Geometry	28%	26%	24%	7%	6%	6%
	Algebra II	27%	29%	24%	6%	7%	6%
	High School Math	40%	43%	41%	14%	13%	12%
	Integrated Math I	7%	7%	7%	1%	1%	1%
	Integrated Math II	25%	27%	21%	3%	5%	5%
	Integrated Math III	20%	21%	27%	4%	4%	6%
<i>Science</i>	Grade 5 Science	N/A	N/A	24%	N/A	N/A	3%
	Biology	35%	37%	30%	10%	11%	8%
	Chemistry	28%	31%	29%	8%	10%	8%
	Earth Science	21%	22%	22%	4%	3%	5%
	Physics	28%	30%	29%	9%	10%	9%
	Integrated Science I	N/A	7%	5%	N/A	1%	0%
	Integrated Science II	N/A	8%	8%	N/A	1%	1%
	Integrated Science III	N/A	7%	8%	N/A	2%	1%
	Integrated Science IV	N/A	12%	8%	N/A	2%	0%

Table 6.A.3: Observed Score Ranges of CSTs across 2002, 2003 & 2004

Subject	Test	Observed Score Ranges		
		2002	2003	2004
<i>ELA</i>	2	154 - 579	150 - 600	150 - 600
	3	113 - 595	150 - 600	150 - 600
	4	118 - 643	150 - 600	150 - 600
	5	0 - 612	150 - 600	150 - 600
	6	118 - 602	150 - 600	150 - 600
	7	0 - 628	150 - 600	150 - 600
	8	99 - 633	150 - 600	150 - 600
	9	100 - 639	150 - 577	150 - 600
	10	0 - 609	150 - 600	150 - 600
	11	0 - 662	150 - 584	150 - 600
<i>History</i>	8	N/A	150 - 600	150 - 600
	10	0 - 666	150 - 600	150 - 600
	11	0 - 667	150 - 600	150 - 600
<i>Math</i>	2	0 - 632	150 - 600	150 - 600
	3	4 - 634	150 - 600	150 - 600
	4	101 - 576	150 - 600	150 - 600
	5	2 - 692	150 - 600	150 - 600
	6	57 - 630	150 - 600	150 - 600
	7	0 - 649	150 - 600	150 - 600
	General Math	0 - 649	150 - 600	150 - 600
	Algebra I	0 - 721	150 - 600	150 - 600
	Geometry	0 - 646	150 - 600	150 - 600
	Algebra II	0 - 600	150 - 600	150 - 600
	High School Math	33 - 631	150 - 600	150 - 600
	Integrated Math I	58 - 715	150 - 600	150 - 600
	Integrated Math II	121 - 700	150 - 600	150 - 600
	Integrated Math III	105 - 601	150 - 600	150 - 600
<i>Science</i>	Grade 5 Science	N/A	N/A	150 - 600
	Biology	50 - 595	150 - 600	150 - 600
	Chemistry	50 - 584	150 - 600	150 - 600
	Earth Science	40 - 520	150 - 532	150 - 600
	Physics	167 - 583	150 - 600	150 - 600
	Integrated Science I	53 - 587	150 - 467	150 - 525
	Integrated Science II	118 - 469	150 - 463	150 - 529
	Integrated Science III	50 - 474	178 - 499	150 - 467
	Integrated Science IV	169 - 447	173 - 465	150 - 431

Table 6.A.4: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for English-language Arts (Grades 2 to 6)

Observed Score Distributions	ELA Grade 2			ELA Grade 3			ELA Grade 4			ELA Grade 5			ELA Grade 6		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	391	240	453	441	308	395	27	66	11	8	2	70	16	8	54
540 – 569	0	0	0	0	0	0	94	139	39	70	17	348	82	83	226
510 – 539	1,087	887	1,560	1,287	1,311	1,147	233	377	484	159	52	0	0	280	608
480 – 509	2,153	1,813	2,970	2,454	2,685	2,358	1,145	1,842	2,032	313	486	2,582	693	730	1,079
450 – 479	3,419	7,314	10,500	8,400	4,312	8,312	4,417	6,601	8,161	2,445	3,236	6,241	2,141	5,717	7,343
420 – 449	17,265	19,751	15,290	20,405	21,378	13,183	15,902	22,955	22,166	11,152	12,685	24,641	10,904	17,978	19,474
390 – 419	33,285	49,410	49,224	35,929	43,618	37,371	37,844	43,316	56,508	32,203	38,962	55,283	33,365	45,713	36,472
360 – 389	67,714	71,250	66,274	57,759	62,872	58,713	76,217	84,007	74,224	70,575	85,226	75,059	66,000	70,509	75,862
330 – 359	76,421	94,531	86,513	73,552	84,558	85,835	85,307	98,630	92,603	93,022	95,169	93,203	91,327	99,972	98,051
300 – 329	85,078	83,370	80,321	85,128	85,966	90,387	89,607	102,071	99,152	116,664	107,987	92,321	102,564	103,656	107,234
270 – 299	76,405	81,964	83,589	72,302	74,260	78,988	81,302	79,811	87,345	95,432	95,141	77,732	89,277	80,513	82,316
240 – 269	77,413	53,950	61,796	70,048	59,332	62,788	42,949	33,745	34,713	40,855	32,629	48,068	56,957	44,894	46,087
210 – 239	15,721	10,723	13,295	30,869	36,770	37,363	3,540	1,887	3,457	2,734	2,023	6,999	12,289	9,375	5,150
180 – 209	406	681	739	3,177	3,579	3,415	71	86	70	28	81	259	308	370	294
150 – 179	11	74	67	125	297	356	3	42	65	4	49	53	3	63	40
000 – 149	0	-	-	6	-	-	1	-	-	4	-	-	1	-	-

Table 6.A.5: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for English-language Arts (Grades 7 to 11)

Observed Score Distributions	ELA Grade 7			ELA Grade 8			ELA Grade 9			ELA Grade 10			ELA Grade 11		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	9	5	17	8	2	12	77	12	49	5	4	65	18	7	57
540 – 569	29	58	3	30	29	59	0	0	0	63	30	244	74	30	0
510 – 539	104	124	236	97	101	208	197	244	153	0	101	0	158	127	202
480 – 509	594	640	1,249	763	670	1,284	1,139	1,303	1,223	655	233	1,956	942	956	1,284
450 – 479	2,841	3,344	6,331	3,726	3,569	3,365	4,733	3,851	6,394	2,100	2,771	5,420	4,005	2,949	3,389
420 – 449	9,683	17,331	19,222	12,074	12,529	14,933	13,190	25,959	20,380	11,891	12,778	15,827	11,189	13,930	15,342
390 – 419	35,260	42,144	54,657	32,745	29,574	44,588	32,902	44,345	50,983	33,362	31,520	40,781	27,169	36,133	25,451
360 – 389	58,895	78,339	78,151	62,511	63,374	74,155	57,350	83,004	71,041	53,937	67,587	66,054	48,095	46,449	59,481
330 – 359	82,780	97,939	84,149	81,574	101,910	95,167	77,727	81,584	91,863	70,937	75,621	80,790	52,252	64,409	64,303
300 – 329	84,071	94,738	98,494	94,262	90,505	102,937	82,108	85,135	88,066	72,027	78,075	81,849	61,935	56,885	70,469
270 – 299	69,653	72,970	76,000	70,273	85,870	85,562	71,839	73,465	80,021	64,993	73,872	76,487	54,024	49,299	52,388
240 – 269	49,551	55,422	51,686	53,804	50,819	49,614	71,168	61,789	60,557	62,081	63,352	61,858	45,155	48,982	53,483
210 – 239	25,179	13,435	13,781	19,320	15,975	14,628	21,553	9,313	14,085	18,090	9,598	14,044	27,493	32,029	31,693
180 – 209	2,809	807	648	1,435	1,263	826	1,703	736	743	526	637	612	3,386	4,785	6,207
150 – 179	136	63	58	23	74	79	35	139	136	10	98	104	105	395	480
000 – 149	3	-	-	5	-	-	7	-	-	3	-	-	26	-	-

Table 6.A.6: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for History (Grades 8, 10 and 11)

Observed Score Distributions	History			History Grade 10			History Grade 11		
	Grade 9	Grade 8		2002	2003	2004	2002	2003	2004
	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	28	27	91	272	239	371	537	118	224
540 – 569	43	52	149	444	400	594	788	256	400
510 – 539	127	215	686	746	688	980	1,138	1,133	700
480 – 509	233	525	1,447	2,303	2,605	3,136	3,608	2,382	2,581
450 – 479	2,054	2,718	5,863	3,793	4,478	5,197	5,248	6,609	6,924
420 – 449	5,885	6,477	10,797	11,633	14,855	16,755	15,541	15,345	15,630
390 – 419	23,133	27,490	27,502	24,051	22,397	32,642	27,975	29,537	29,722
360 – 389	52,718	55,012	58,013	35,020	45,670	42,504	36,715	46,768	48,544
330 – 359	84,815	92,444	78,867	65,735	65,537	69,826	62,312	55,013	58,779
300 – 329	84,182	107,943	97,630	82,269	67,426	69,995	58,600	74,565	79,637
270 – 299	113,378	106,390	116,251	87,207	87,542	101,705	77,412	73,800	76,429
240 – 269	59,615	46,713	75,071	63,293	78,745	70,889	40,738	34,192	40,710
210 – 239	13,651	8,698	9,637	17,397	15,797	21,612	9,226	9,228	15,585
180 – 209	1,195	582	441	1,997	1,582	2,491	957	745	1,767
150 – 179	89	62	60	198	235	314	85	152	187
000 – 149	40	-	-	61	-	-	43	-	-

Table 6.A.7: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (Grades 2 to 6)

Observed Score Distributions	Math Grade 2			Math Grade 3			Math Grade 4			Math Grade 5			Math Grade 6		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	2,388	3,738	3,819	741	1,937	6,988	1,446	2,426	1,906	799	1,866	2,376	717	773	1,857
540 – 569	5,306	8,415	7,340	1,890	4,873	0	0	0	0	1,155	2,139	2,608	1,662	1,775	0
510 – 539	7,952	0	10,218	3,497	0	6,906	3,484	5,756	4,309	3,904	3,103	7,748	2,626	2,578	2,233
480 – 509	9,711	12,573	12,254	5,241	17,600	18,269	0	0	6,588	6,076	8,844	10,475	3,537	3,428	6,557
450 – 479	11,189	32,641	28,344	15,060	11,424	22,282	13,045	20,478	17,982	7,986	18,019	19,304	14,231	14,502	14,426
420 – 449	39,477	37,323	30,619	20,084	40,292	36,287	19,246	27,937	33,724	20,919	30,072	23,043	18,834	19,027	24,739
390 – 419	43,356	57,377	62,732	49,760	44,193	61,907	48,753	63,690	49,349	34,998	34,532	44,799	38,915	38,914	37,534
360 – 389	71,179	69,650	59,973	69,242	71,908	58,608	64,330	74,616	71,693	44,088	49,002	50,481	54,697	55,083	62,207
330 – 359	65,510	72,800	79,459	67,754	79,857	75,598	81,632	83,703	84,255	66,262	67,533	67,016	71,570	76,422	73,071
300 – 329	68,673	67,476	65,047	72,404	69,963	69,680	81,155	72,451	84,292	96,233	78,553	87,145	91,130	101,270	97,625
270 – 299	64,705	55,778	56,871	69,676	65,285	62,179	78,723	57,578	72,422	92,718	81,066	77,072	89,459	94,165	97,546
240 – 269	48,380	35,573	31,956	53,540	45,186	42,125	49,426	49,060	50,378	63,348	64,433	55,189	64,854	57,901	54,946
210 – 239	26,435	17,584	18,581	30,209	22,633	18,577	23,237	23,003	10,056	29,156	29,106	30,828	18,897	13,926	7,459
180 – 209	9,430	6,386	6,580	10,448	7,633	3,571	1,679	2,079	745	3,995	5,912	5,427	1,766	1,207	608
150 – 179	1,601	1,401	1,386	1,701	1,280	327	111	230	67	699	1,628	1,213	61	98	71
000 – 149	138	-	-	179	-	-	5	-	-	76	-	-	6	-	-

Table 6.A.8: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (Grade 7, General Math, Algebra I, Geometry and Algebra II)

Observed Score Distributions	Math Grade 7			General Math			Algebra I			Geometry			Algebra II		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	724	1,103	1,644	30	77	34	730	666	693	502	334	346	1	420	234
540 – 569	0	0	1,649	0	0	0	476	990	480	0	435	366	18	531	285
510 – 539	873	1,238	2,235	34	98	183	1,362	1,493	1,300	642	699	557	134	668	388
480 – 509	2,594	3,926	6,017	190	547	237	2,035	2,112	2,981	2,167	2,086	2,518	806	948	1,116
450 – 479	6,632	9,495	8,063	1,040	1,382	1,739	6,303	6,482	4,878	3,431	4,750	3,767	2,328	3,819	2,605
420 – 449	10,674	13,843	22,151	2,681	7,443	6,606	10,471	10,809	12,825	7,148	8,739	8,889	3,770	5,482	5,409
390 – 419	28,074	32,688	38,115	11,870	17,015	18,289	21,071	21,817	22,093	17,911	15,028	15,980	9,383	9,403	10,113
360 – 389	51,226	62,871	58,197	33,354	45,110	37,324	33,295	42,713	43,277	24,998	24,364	28,087	16,379	18,401	14,760
330 – 359	74,727	76,441	80,012	66,937	73,838	64,570	57,900	66,882	69,127	35,697	36,966	37,296	21,288	22,389	29,094
300 – 329	93,876	101,910	87,293	104,595	86,136	82,520	93,657	95,840	108,152	44,558	55,488	65,688	31,089	29,949	32,074
270 – 299	90,204	102,494	93,449	113,768	89,937	93,195	84,289	129,552	169,249	45,494	56,997	63,937	35,689	27,847	37,397
240 – 269	68,341	63,364	68,406	87,098	76,723	67,247	77,155	90,322	129,263	38,232	49,781	54,265	19,598	25,480	34,009
210 – 239	18,462	11,551	19,245	25,244	34,620	31,505	30,552	23,124	34,974	17,584	10,650	15,767	7,036	13,934	10,820
180 – 209	1,194	1,355	1,418	2,014	5,062	3,336	2,631	2,564	3,875	1,972	530	802	751	1,734	2,380
150 – 179	106	114	180	212	439	207	284	353	392	145	58	107	38	172	181
000 – 149	12	-	-	17	-	-	22	-	-	22	-	-	6	-	-

Table 6.A.9: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Mathematics (High School Math & Integrated Math I, II and III)

Observed Score Distributions	High School Math			Integrated Math I			Integrated Math II			Integrated Math III		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	200	350	311	18	11	4	3	4	15	7	10	17
540 – 569	562	1,023	664	6	7	7	7	14	14	38	28	13
510 – 539	0	0	977	9	15	8	33	16	18	27	27	26
480 – 509	2,047	1,627	1,261	30	14	16	73	45	68	141	94	32
450 – 479	1,440	2,108	3,168	60	40	18	183	103	95	196	137	108
420 – 449	5,383	4,833	3,564	122	67	56	522	265	154	382	191	161
390 – 419	6,229	7,967	7,931	337	170	114	1,543	615	401	718	494	211
360 – 389	8,138	10,058	10,728	717	418	245	2,538	1,087	578	1,070	749	415
330 – 359	11,928	11,028	13,602	1,646	910	651	4,687	1,638	1,263	1,898	1,176	794
300 – 329	10,321	10,426	14,333	3,545	1,880	1,246	4,760	2,566	1,663	2,588	1,474	957
270 – 299	7,470	8,692	11,488	5,313	3,258	2,553	5,517	1,973	2,026	3,704	1,959	837
240 – 269	5,780	4,700	6,754	8,306	4,729	2,982	4,070	1,075	1,350	3,336	2,525	513
210 – 239	6,188	3,752	3,953	3,062	2,045	1,299	686	154	210	1,135	936	248
180 – 209	3,778	5,258	1,167	840	306	168	119	5	16	120	209	60
150 – 179	957	3,277	161	60	27	34	10	3	4	22	20	16
000 – 149	169	-	-	13	-	-	3	-	-	6	-	-

Table 6.A.10: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Science (Biology, Chemistry, Earth Science and Physics)

Observed Score Distributions	Biology			Chemistry			Earth Science			Physics		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	116	66	57	58	104	97	0	0	6	14	16	19
540 – 569	0	0	0	0	0	0	0	0	0	0	0	0
510 – 539	296	264	238	194	275	293	13	1	17	56	45	58
480 – 509	605	634	552	343	508	458	44	13	49	87	65	120
450 – 479	4,176	2,865	2,137	1,124	1,691	1,633	82	70	310	378	239	450
420 – 449	8,273	9,413	10,072	2,962	4,054	3,814	723	654	1,208	1,064	940	1,347
390 – 419	23,001	29,662	26,041	8,384	8,806	9,960	3,236	3,084	5,493	2,796	2,917	3,841
360 – 389	46,191	50,084	61,054	16,327	23,308	22,358	9,151	9,716	15,052	4,605	6,520	6,124
330 – 359	63,010	72,540	87,548	32,963	30,613	36,287	14,570	17,002	23,473	7,444	8,933	9,473
300 – 329	75,800	69,769	94,708	43,117	41,560	50,457	17,607	22,569	33,650	9,342	9,159	11,695
270 – 299	56,802	64,739	79,136	31,085	31,049	38,239	21,654	26,494	34,196	9,552	10,478	12,931
240 – 269	19,192	26,483	30,782	7,878	9,392	15,359	12,070	8,275	18,566	6,003	4,709	5,588
210 – 239	931	3,097	2,437	475	787	1,348	909	490	1,634	400	379	428
180 – 209	74	72	118	18	46	63	32	22	74	18	24	19
150 – 179	4	41	32	2	12	13	4	17	13	1	5	10
000 – 149	4	-	-	3	-	-	1	-	-	0	-	-

Table 6.A.11: Observed Score Distributions of CSTs across 2002, 2003 & 2004 for Science (Integrated Science I, II, III and IV)

Observed Score Distributions	Integrated Science I			Integrated Science II			Integrated Science III			Integrated Science IV		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
570 – 600	3	0	0	0	0	0	0	0	0	0	0	0
540 – 569	0	0	0	0	0	0	0	0	0	0	0	0
510 – 539	4	0	1	0	0	1	0	0	0	0	0	0
480 – 509	6	0	4	0	0	1	0	4	0	0	0	0
450 – 479	25	9	16	4	4	14	1	10	3	0	2	0
420 – 449	91	31	47	14	38	52	24	23	12	12	5	2
390 – 419	431	332	425	134	270	257	73	133	45	67	28	5
360 – 389	1,857	1,727	2,602	1,078	997	1,031	673	298	207	313	66	68
330 – 359	4,929	7,452	9,986	3,629	3,294	2,979	4,260	879	663	1,178	204	217
300 – 329	10,834	18,481	26,543	8,120	6,926	6,934	14,948	2,959	1,966	4,159	340	483
270 – 299	13,855	21,017	38,813	9,925	8,906	8,124	27,950	4,683	2,367	7,325	484	506
240 – 269	6,456	11,376	20,182	2,455	4,557	4,627	8,573	1,233	564	3,140	320	275
210 – 239	480	675	2,123	103	543	422	559	90	22	258	43	14
180 – 209	16	42	109	7	9	16	22	3	3	6	5	6
150 – 179	1	4	10	0	2	3	1	2	0	1	1	0
000 – 149	1	-	-	1	-	-	2	-	-	0	-	-

Appendix 6.B

Table 6.B.1: Average Proportion Correct of CSTs across 2002, 2003 & 2004

Subject	Test	Average P-Value		
		2002	2003	2004
<i>ELA</i>	2	0.61	0.59	0.59
	3	0.60	0.61	0.60
	4	0.57	0.56	0.57
	5	0.54	0.53	0.59
	6	0.58	0.56	0.57
	7	0.60	0.56	0.57
	8	0.58	0.55	0.56
	9	0.56	0.55	0.55
	10	0.57	0.54	0.58
	11	0.57	0.54	0.57
<hr/>				
<i>History</i>	8	N/A	0.48	0.47
	10	0.47	0.48	0.48
	11	0.51	0.48	0.49
<hr/>				
<i>Math</i>	2	0.68	0.74	0.71
	3	0.65	0.68	0.64
	4	0.65	0.68	0.63
	5	0.53	0.56	0.56
	6	0.55	0.56	0.53
	7	0.51	0.52	0.53
	General Math	0.45	0.50	0.47
	Algebra I	0.45	0.50	0.48
	Geometry	0.55	0.58	0.53
	Algebra II	0.52	0.60	0.54
	High School Math	0.66	0.71	0.64
	Integrated Math I	0.39	0.34	0.35
	Integrated Math II	0.49	0.43	0.39
	Integrated Math III	0.46	0.45	0.47
<hr/>				
<i>Science</i>	Biology	0.53	0.56	0.52
	Chemistry	0.53	0.56	0.51
	Earth Science	0.49	0.46	0.47
	Physics	0.51	0.52	0.52
	Integrated Science I	0.41	0.41	0.39
	Integrated Science II	0.44	0.43	0.40
	Integrated Science III	0.40	0.36	0.37
	Integrated Science IV	0.40	0.41	0.43

Table 6.B.2: Overall IRT b-values for Operational Test Items across 2002, 2003 & 2004

Subject	Test	Mean IRT b-Value		
		2002	2003	2004
<i>ELA</i>	2	-0.36	-0.10	-0.15
	3	-0.33	-0.35	-0.34
	4	-0.07	0.09	-0.01
	5	-0.06	0.07	-0.16
	6	-0.32	-0.04	-0.05
	7	-0.11	0.17	0.16
	8	-0.30	-0.11	-0.14
	9	-0.26	-0.02	-0.04
	10	-0.27	-0.05	-0.21
	11	-0.22	-0.09	-0.23
<hr/>				
<i>History</i>	8	N/A	0.18	0.18
	10	0.16	0.13	0.15
	11	-0.01	0.18	0.09
<hr/>				
<i>Math</i>	2	-0.91	-1.00	-0.85
	3	-0.72	-0.76	-0.35
	4	-0.69	-0.70	-0.40
	5	-0.15	-0.24	-0.14
	6	-0.27	-0.26	-0.05
	7	-0.07	-0.03	-0.04
	General Math	0.18	0.04	0.17
	Algebra I	-0.04	0.07	0.08
	Geometry	-0.81	-0.42	-0.21
	Algebra II	-0.35	-0.52	-0.33
	High School Math	-0.92	-1.09	-0.69
	Integrated Math I	0.06	N/A	0.25
	Integrated Math II	-0.45	N/A	0.08
	Integrated Math III	-0.17	N/A	-0.06
<hr/>				
<i>Science</i>	Biology	-0.18	-0.34	-0.22
	Chemistry	-0.17	-0.25	-0.11
	Earth Science	0.06	0.22	0.17
	Physics	-0.21	-0.17	-0.21
	Integrated Science I	N/A	N/A	N/A
	Integrated Science II	N/A	N/A	N/A
	Integrated Science III	N/A	N/A	N/A
	Integrated Science IV	N/A	N/A	N/A

Table 6.B.3: Reliabilities and Standard Error of Measurement (SEM) of CSTs across 2002, 2003 & 2004

Subject	Test	Reliability			SEM		
		2002	2003	2004	2002	2003	2004
<i>ELA</i>	2	0.93	0.93	0.94	3.8	3.5	3.3
	3	0.94	0.93	0.93	3.8	3.5	3.5
	4	0.94	0.93	0.94	4.3	3.9	3.7
	5	0.92	0.92	0.94	4.3	3.9	3.6
	6	0.93	0.93	0.93	4.2	3.7	3.8
	7	0.93	0.92	0.93	4.2	3.9	3.8
	8	0.93	0.91	0.92	4.2	4.0	3.8
	9	0.94	0.93	0.93	4.2	3.8	3.8
	10	0.94	0.93	0.94	4.2	4.0	3.8
	11	0.93	0.93	0.93	4.2	3.9	3.9
<i>History</i>	8	N/A	0.88	0.91	N/A	4.0	3.5
	10	0.87	0.90	0.91	3.6	3.5	3.3
	11	0.88	0.90	0.90	3.6	3.5	3.5
<i>Math</i>	2	0.93	0.92	0.93	3.3	3.2	3.2
	3	0.92	0.93	0.94	3.4	3.3	3.3
	4	0.93	0.94	0.94	3.4	3.3	3.4
	5	0.89	0.92	0.93	3.6	3.5	3.4
	6	0.91	0.92	0.93	3.6	3.6	3.5
	7	0.89	0.91	0.92	3.7	3.7	3.6
	General Math	0.85	0.90	0.89	3.7	3.6	3.6
	Algebra I	0.84	0.88	0.87	3.7	3.6	3.6
	Geometry	0.89	0.91	0.90	3.6	3.7	3.6
	Algebra II	0.85	0.91	0.90	3.7	3.7	3.6
	High School Math	0.93	0.95	0.93	3.4	3.2	3.3
	Integrated Math I	0.76	0.80	0.81	3.7	3.6	3.6
	Integrated Math II	0.85	0.87	0.85	3.7	3.6	3.6
	Integrated Math III	0.77	0.89	0.88	3.8	3.7	3.6
<i>Science</i>	Biology	0.89	0.91	0.90	3.5	3.4	3.5
	Chemistry	0.87	0.90	0.90	3.6	3.5	3.6
	Earth Science	0.89	0.88	0.89	3.6	3.7	3.6
	Physics	0.88	0.91	0.92	3.6	3.5	3.4
	Integrated Science I	0.78	0.81	0.82	3.6	3.6	3.6
	Integrated Science II	0.79	0.85	0.84	3.6	3.5	3.6
	Integrated Science III	0.65	0.80	0.79	3.5	3.5	3.6
	Integrated Science IV	0.65	0.85	0.83	3.5	3.6	3.5